DOCUMENT RESUME

ED 152 125 HE 009 638

AUTHOR	Chickering, Arthur W.; And Others
TITLE	Developing the College Curriculum. A Handbook for Faculty & Administrators.
INSTITUTION	Council for the Advancement of Small Colleges, Washington, D.C.
PUB DATE	77
NOTE	307p.
AVAILABLE FROM	Council for the Advancement of Small Colleges, One Dupont Circle, Suite 320, Washington, D.C. 20036 ($15.00)
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	*College Curriculum; *Curriculum Design; *Curriculum Development; *Curriculum Planning; Educational Change; Guides; Higher Education; Manuals; Models

ABSTRACT

The handbook is presented in four major parts. In part one Arthur Chickering sees college curricular change as a continuing process made necessary by conditions that are both internal and external to the college. In part two David Halliburton builds on Chickering's rationale, shifting the focus to the curriculum itself. Here he deals with the underlying assumptions of curricular design. William Bergquist introduces the subject of curricular practice, considering the general issue of curricular diversity and presenting an eight-category model of nontraditional curricula. Jack Lindquist then treats the topic of implementing curricular change, highlighting the skills needed in this phase. (MSE)

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DEVELOPING THE COLLEGE CURRICULUM

A handbook for faculty & administrators

ARTHUR W. CHICKERING
DAVID HALLIBURTON
WILLIAM H. BERGQUIST
JACK LINDQUIST

GARY H. QUEHL
General Editor
MARGUERITE GEE
Associate Editor

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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Washington, DC 20036

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Library of Congress Catalog Card Number 77-90328

Printed in the United States of America

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FOREWORD

The Council for the Advancement of Small Colleges merits recognition by all Americans, professional and lay, for focusing attention on the curriculum problems which faculties must be concerned with in the days ahead. Although the treatises in this handbook do not, and no treatment no matter how comprehensive could within the scope of existing knowledge, deal definitively with the various issues involved, they do highlight the matters which imperatively deserve attention by the members of the academic community.

As one looks back over the history of higher education in Western culture, one observes that discussions have evolved around substance, not with theoretical foundations. For centuries under the dominance of the dogma of transfer of training, academicians placed the highest intellectual value on the mastery of the classical languages and literatures with a modicum of mathematics. These disciplines by their nature and content were believed not only to cultivate the mental faculties, but also to provide that body of learning essential in the living of a proper life in a civilized society.

It wasn't until the emergence of the elective system that the traditional corpus of knowledge broke up and even as late as the last decades of the nineteenth century, there was little theoretical basis for curriculum construction. When John Dewey's emphasis on goals, process, and motivation began to be felt, a comprehensive modern curriculum theory began to take shape. A number of educational innovations followed at such schools as Bennington and Sarah Lawrence in which learning theory rather than the conventional wisdom about the content of instruction prevailed in academic discussions.

Even under the towering influence of such men as Dewey, Whitehead, and the functionalists of the days of the general education movement a quarter century or more ago, the disciplinary specialists have been able to keep curriculum discussions circumscribed considerably by subject matter boundaries. Discussions of curricular reform, although broader than they were before World War II, continue to concentrate on systematic development of course content, the rearrangement of the academic calendar to adjust it to various amounts of instruction, the establishment of degree requirements in terms of so much knowledge, the setting of examinations in terms of the acquisition of fact, the digestion of a certain amount of textual material per unit of study time; and more particularly, the transmittal of a body of facts by those who have been through the same process. Pervading it all is the pedagogical assumption that the digestion of ever larger bodies of cognitive aliment is the surest indication of educational growth.

Why this long discussion in so brief an introduction to this remarkably insightful and fruitful volume on the curriculum? It is designed to alert the reader that this book is no rehash of the many arguments and points of view so prolifically produced in recent years. It deals as much with the theory of American higher education as with its current practice. And when the various statements describe unusual curricular innovations or models, they consider the philosophical and theoretical basis on which they rest. They avoid, in fact they decry, the practice of the past of suggesting that the curriculum policies of one institution, however sound they may appear, are suitable for adoption in another whose student body, faculty, resources, facilities and traditions may be quite different.

Those institutions which are contemplating or undertaking curriculum changes will find in this volume rich sources of help. This reader was especially rewarded by discussions of factors in American and in institutional life which ought to be considered before any restructuring of the curriculum is initiated.

The first of these relates to the purposes of higher education. It is clear that if education is to accomplish the dominant goal of the earliest American thinkers, namely to produce an informed and dedicated citizenry, it must turn its vision outward and view the state of the society it serves. This does not mean it must become utilitarian in the sense of dealing with the multitude of passing problems on a how-to-do-it basis. It means that the curriculum must be organized not around the internal logic of single disciplines, but rather around the problems and issues with which in a democracy all citizens must come to grips: crime, pollution, political corruption, energy, taxes, the distribution of health services, and a host of others which appear in the headlines daily. This objective will require a completely new beginning in curriculum construction. The beginning must be with human problems in the large, not with the remote minutiae of scholarship in a discipline. It follows that the curriculum must be developed across subject-matter boundaries in terms of the broad complexities which exist in the human enterprise.

Second, curriculum reform if it is to serve a certain constituency must take into consideration the changes that have taken place in college-going youth in a few years. In contrast to several decades ago when only a small percentage of young people continued their education beyond high school, now the percentage is over 50. The range in ability and interests among these students is considerable. Unless an institution has for years had a select patronage with many more applicants than it can accommodate, it will have to offer programs and teaching procedures that take into account the diversity of these students. With the curriculum so organized, classes so composed, and teachers so motivated that the peculiar abilities and traits are cared for, the evidence from many studies indicates that 500 and 600 S.A.T. scores are not essential to academic success; and society can thus be more fully served.

Third, the unexpressed premise in most faculty discussions is the idea that every student in every course is planning to major in a given field, or more likely going on to graduate work in a related discipline. The simplest analysis of the full complement of courses with a comparison of the number of departments and *students discloses the unsoundness of any such theory. Two different points of departure are required in any curriculum reconstruction. First, the elementary courses have to be designed for the common run of students who do not intend to spend a life in the field. Also, many of the superfluous advanced courses ought to be dropped, in view of the knowledge that a student going on to graduate work will probably get more adequate instruction there.*

Fourth, something already has been said about the need for more general less-specialized courses for undergraduates. The need for new courses designed especially for mature adults is manifested in the swiftly changing character of American life. The demand for occupationally-oriented instruction has been proven by the large increases in attendance in urban areas of older students who pursue vocationally-related programs for purposes of advancement in their jobs. But the growth in attendance during non-working hours of those who simply want to understand the enormously complex physical and social world has been equally arresting. These new groups of students pose problems for those revamping the curriculum, for they do not wish to nor will they pursue a four- or five-year sequence of instruction preparatory for a life of scholarship in a single field. Neither will they pursue the tedious details in a first course which they feel does not deal with the matters in their daily lives. Moreover, many of these adults have had long, rich experiences which they bring to discussions in a suitable class setting. It is likely they will become restive and leave if they are subjected to the same lectures designed for a captive audience of undergraduates.

If curriculum reform is to proceed in a timely, orderly, and lasting fashion, those concerned must be acquainted with the various theories which have been conceived in recent years and embodied in the reconstruction of the curriculum. This handbook is a mine of information on current curriculum theory. Readers will also be able to observe how these theories have been given expression in the concrete, i.e., the implementation of innovative programs under various institutional traditions and present conditions. One of the restraints on institutions undertaking curriculum review and reconstruction has been the lack of a source book which not only brings together prevalent ideas on the subject, but also contains critical evaluations of what is being said and done in this field. Staff members with other absorbing demands on their time and thought find it impossible to search through the welter of material dealing directly with curriculum matters, to say nothing of the relevant work of scholars in sociology, psychology, political science, history, and other disciplines.

William Bergquist highlights this problem when, after discussing the importance of arriving at program goals, he states, "But there are two sizeable hurdles yet to cross. One is to become well-informed about current theory and practice *related to college curriculum. The other is to take a hard look at economic, social, and political trends which might have significant impact on what you are able to do in the next few years." In these efforts this volume will be of immense value. It reviews various theoretical approaches to curriculum design with evaluative comments by the most competent observers, and through the text, makes constant bibliographical reference to the works of leading thinkers in this scholarly area. Moreover, to reveal how theoretical considerations determine curricular content and structure, specific examples of various curricular designs are given.*

To do justice to a handbook of this magnitude in a foreword is impossible. Those who prepared these chapters, Arthur W. Chickering, David Halliburton, William H. Bergquist, and Jack Lindquist, have rendered an invaluable service to the CASC membership and to all persons in other institutions who have responsibility for making the programs of our colleges and universities more responsive to the urgent needs of our times. To Gary H. Quehl and others with the Council who were responsible for conceiving this project and bringing it to realization goes the gratitude of all those dedicated to excellence in American higher education.

Earl J. McGrath

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PREFACE

The Council for the Advancement of Small Colleges is pleased to share the results of twelve months of research and writing on the important topic of collegiate curriculum development. This handbook is the third in a continuing series of practical guides for college faculty and administrators who wish to improve the quality of teaching, learning and management in their colleges. In both form and purpose, this handbook builds on two previous publications: **A Handbook for Faculty Development** *(Volume I, 1975; Volume II, 1977).*

The handbook is presented in four major parts. In Part One, Arthur Chickering sees college curricular change as a continuing process made necessary by conditions that are both internal and external to the college. In dealing with the why of curriculum development, *he first isolates internal organizational reasons and then identifies major changes taking place in the external environment which suggest the curriculum must be tailored to social reality.*

David Halliburton builds on Chickering's rationale in Part Two, but the focus shifts to the curriculum itself. Here the handbook deals with the theory and underlying assumptions of curricular design. *Halliburton identifies ways in which curricula become obsolete. He then surveys general principles, analyzes disciplinary and inter-disciplinary approaches, considers several types of student development models, and concludes with a discussion on curricular decision-making.*

With a broad theoretical grounding established by Halliburton, William Bergquist introduces the subject of curricular practice *in Part Three. He considers the general issue of curricular diversity and then presents an eight-category model of non-traditional curricula that he developed on the basis of a massive survey of curricular practices across the country. After presenting the model, Bergquist treats the eight categories in-depth by presenting exemplary college curricula in each area. Additional details are given in Appendices A and B.*

Part Four treats a subject that most volumes on college curriculum either fail to acknowledge or avoid: The most difficult phase of curriculum development is not to be found in questions of theory or design but in arriving at and implementing curricular change. *The key skills needed in this phase are in working with information and people. In this final section of the handbook, Jack Lindquist shares the results of recent research and practice concerning academic reform and innovation by offering a rich variety of practical tips and useful tools for guiding the political and emotional aspects of curricular change. Additional tools are offered in Appendix C.*

The Council is privileged to have received assistance from a large number of organizations that are deeply committed to small independent colleges. For years, the C.I.T. Foundation and the Shell Companies Foundation have been two special friends, and this handbook would not have been possible without their generous financial support.

We also acknowledge and thank the hundreds of faculty, administrators and consultants who shared ideas and materials that went into the writing of the manuscript, particularly Jennifer Grimes and Mario Alosco, who prepared Appendix B. Finally, special appreciation is given to Marguerite Gee, the Council's Director of Development and Public information. Her critical eye and persistence in resolving numerous practical problems have greatly helped to make the original idea behind this handbook a reality.

Gary H. Quehl
PRESIDENT
September, 1977
Washington, D.C.

INTRODUCTION

"Curriculum development" is a spacious ark which has come to hold many different creatures in the higher education landscape. We want to be inclusive, yet need to set some boundaries to the term. The dictionary defines "curriculum" first as all the courses offered, considered as a totality. This is the sense most often employed today; it is to be found, for instance, in the title of this handbook. According to a second meaning, curriculum is a given course of study. This also amounts to a totality, but a smaller one—namely, all the courses taken by some person one after another. A third definition leads to a conception that underlies the definition just described: curriculum as a stream or process. That imaginary person just mentioned is now to be portrayed as moving along temporally and developmentally through learning experiences. Some of these experiences may be formal courses. Other "college level" learning may accrue through jobs, extra-curricular activities, personal relationships or travel. Some colleges now regard any experience that produces college level learning as appropriate to evaluate for college credit. In the broadest sense, such experiences are part of the college curriculum.

A parallel case can be made for the curriculum vitae, although it is not ordinarily associated with curriculum. The vitae is more than a neat page or two, filled with compressed information. It is more than a form to file and forget. What is recorded on a curriculum vitae is quite literally the course of a life. Looking back from this vantage point to the other definitions, it can be seen that a curriculum is essentially a process.

We can return to the Latin root currere, "to run"—the same root that underlies the idea of a stream or process. That permits us to focus on the person who does the running, the student. It draws attention to what she does to achieve the knowledge competence, the values, and the personal development pertinent to her goals and the goals of the institution. Faculty members fundamentally aim to create conditions for student behavior which lead to desired outcomes. If changes in faculty behavior don't result in changes in student behavior and the conditions in which they occur, then it's hard to see how outcomes will be affected. So when we talk about curriculum development we are talking about changes which result in new conditions for learning and new behaviors by students.

We shouldn't stop here, however, for actual curricula are not always what a definition says they are. What is worse, they are not always what they themselves say they are. Of course curricula don't speak; catalogs do. But the main content of a catalog, after all, is supposed to be the curriculum: the catalog is the curriculum telling the learner all about itself. One problem is that catalogs often fail to tell the truth. When we look closely at curricula as they present themselves to learners, strange discrepancies appear. K. Patricia Cross has observed that "the typical American college has three curricula—what we say we teach, what we do teach, and what students learn. Thus we have a catalog curriculum, a teaching curriculum, and a learning curriculum. The curriculum statement *printed in a catalog frequently bears only the faintest resemblance to what is taught by the faculty; and what is taught by the faculty may have surprisingly little relationship to what is learned by students." A second problem is that college catalogs rarely depict a learning process. Rather, discrete courses and requirements are isolated by department into what seem more to be hatchery holding tanks than streams. While it would be helpful to clean up catalogs as a first step, much more needs to be done. Educators need to confront the curriculum itself. Do we mean by curriculum the courses we happen to offer, some courses of study which have particular students in mind, or a process, a flow of learning which takes place in a variety of ways? Why do we define curriculum the way we do? What does that say about the kinds of learning and the ways of learning that we believe are good and true? And do we have any evidence, hard as evidence of curriculum impact is to gather, which supports our contentions? Such questions are at the heart of this handbook.*

1

Curricular Rationale

By ARTHUR W. CHICKERING

Arthur W. Chickering is Distinguished Professor of Higher Education and Director of the Center for the Study of Higher Education at Memphis State University. He is the author of *Education and Identity*, which won the 1969 American Council on Education Book Award, *Commuting Versus Resident Students*, and numerous articles concerning student development, curriculum, teaching and evaluation.

It used to be said that colleges and universities, like mountains and graveyards, were hard to change, impervious to outside forces. But now at many institutions the signs read "Alterations as Usual While Business is in Progress." Just as graveyards yield to thruways and mountains to bulldozers, colleges are changing in response to strong social forces and internal pressures. Most of us are thinking hard about changes which cover the alphabet—at least from competency-based and contract learning to personalized and televised instruction. What are the reasons? Most are fairly obvious. They stem from direct pressures and immediate conditions at work in higher education, which in turn, grow out of major social changes.

In Chapter One, Arthur Chickering describes financial and enrollment factors which create conditions for change and comments on the availability of new models and research findings which help us decide what directions curriculum development might take. He also comments on dissatisfaction with existing programs and the need for institutional coherence which have to be recognized as changes are initiated.

Chickering argues that if the kinds of curriculum development we undertake are to have reasonable relevance and a decent life expectancy, they have to be consistent with major social changes currently at work. In Chapter Two, he describes some of these changes with observations on the nature and role of knowledge, the world of work, shifting sex roles and expectations. and the critical significance of learning to live with interdependence.

CHAPTER 1

Direct Pressures and Immediate Conditions

Abraham Maslow's "basic needs" can be used as a metaphorical conceptual framework. While he posited them for individuals, perhaps they work for organizations as well. He says, "the basic needs . . . after bodily needs are taken care of, are for 1) protection, safety, security; 2) belongingness, as in a family, a community, a clan, a gang; friendship, affection, love; 3) respect, esteem, approval, dignity, self-respect and 4) freedom for the fullest development of one's talents and capacities, or actualization of the self."[1] Until recently, it was probably safe to say that curriculum development occurred largely in response to needs like those described in (2) and (3). Institutions formulated curricula which ensured that they would clearly "belong" to the higher education community, or at least to one of its major clans. Their needs for respect, esteem and approval meant that they copied patterns set by dominant institutions without much creative or hard-headed thinking about their own purposes, constituencies and resources. Thus at colleges across the country—large and small, rich and poor, sectarian or secular, urban, suburban, or rural—most of us strove hard to become the "Harvard" of our region. Of course we did not have Harvard's faculty, facilities, or endowment, and most of our students were not like those who attend Harvard, or even Yale. We did not see these differences as obstacles. We still offered the full traditional curriculum in humanities, social science and natural science, even with occasional one- or two-man departments. Our limited library holdings were supplemented by inter-library loan services.

Remember how we decided on a new major or revised our general education requirements? We collected catalogs from the other colleges and by choosing two courses from Column A, three from Column B, and one from Column C, we created our own Chinese menu. Confident that we had appetizing offerings and a balanced diet, we added another combination of courses. As a result, burgeoning enrollments were served by proliferating a single model; escalating dollars were used to create more of the same, as Dick Martin's *Conformity*[2] points out so well.

A few institutions pursued curriculum development out of needs that looked more like "self-actualization." These institutions typically were characterized by some clear organizing principles. Developmental efforts aimed to create programs or improve performances such that these principles were more fully realized. Sometimes the organizing principles rested on a well-articulated educational philosophy or assumptions about learning, like St. John's and Chicago's anchor in the "Great Books" and intellectual discipline, Goddard's foundation in progressive education, and Antioch's focus on community participation and community service. Sometimes the organizing principle rested on service to a particular constituency, like Berea and the Appalachian poor.

But these were only infrequent exceptions in the basic cycles of institutional reproduction—eccentric colleges whose deviations were more or less acceptable to the mainstream. There was no need to pay them much heed. Students and dollars were flowing freely. Entrance requirements were increased; prediction equations were honed; new dormitories, laboratories and libraries were built; full-time faculty was expanded; and tenure qualifications were relaxed. In short, higher education was assumed to be relevant to all social concerns, needing some minor adjustments.

FINANCES AND ENROLLMENTS

Then came the depression in dollars and the recession in enrollments. When Princeton revealed a six million dollar deficit[3] and other Ivy Leaguers began belt-tightening, it became clear that the problem was widespread. Maslow's more elemental—or alimental—needs began to be felt. Security, safety and protection became priority concerns. At some institutions the regular flow of nourishing cash dropped so much that institutional anemia or retrenchment set in. The Council for the Advancement of Small Colleges carried out a cost-analysis project to help colleges prepare for the crunch. Now the twin prods of diminished dollars and declining enrollments, either actual or threatened, herded many colleges toward alternatives attempting to cut costs and attract new clienteles.

A special report by Lupton, Augenblick and Heygison in *Change* Magazine described the situation. Using Higher Education General Information Survey (HEGIS) data collected by the U.S. Office of Education, institutions were classified as *healthy, relatively healthy, neutral, relatively unhealthy* (might be turned around by good management) and *unhealthy* (where the institution's long-term survival is problematic unless some major intervention occurs). Looking at all ranked institutions, they said, 25.1 percent were in the healthiest category (A) while 43.9 percent were in healthy categories A and B . . . Category D., somewhat unhealthy, contained over one-third of all institutions. An additional 14.4 percent of all institutions fell into the least healthy category (E). This distribution depicts the financial stress that exists in the higher education community.

> *As has been generally hypothesized, there is a significant difference between the distributions of public and private institutions. . . . Private institutions exhibit a severe skew toward the unhealthy end of the scale, with almost three out of every five schools in category D. We believe this large group dramatically epitomized the situation faced by the majority of America's private colleges and universities. The large percentage in category D are not in desperate straits, but the slow erosion of financial condition that has occurred over time has now become apparent in quantifiable terms. Their generally heavy dependence on tuition revenue is and will continue to be detrimental at a time when their reputations and value structures no longer attract a sufficient number of students who are able to attend without significant amounts of financial aid. Many of these institutions may be able to recover if hard decisions are made about program and course offerings, and if many traditional but uneconomic practices, such as 10:1 student to faculty ratios, are altered. If major efforts are not made to retard the growth of their expenditures, the condition of such institutions will continue to worsen in the face of stabilizing revenue growth.*
>
> *There are also significant variations in financial condition by size of institutions. Looking at the category of small colleges, those with 1,000 or fewer students, less than one-quarter were in the top two categories, while over three-fifths were ranked in the two unhealthy categories. At the other end of the spectrum, of those institutions with*

> *enrollments in excess of 10,000, over three-quarters were in the top two categories and fewer than one-fifth fell in the two least healthy categories. These progressions are steady as one considers institutions with enrollments of 1,000-2,499, 2,500-4,999, and 5,000-9,999.*[4]

This report has been criticized on several grounds. The data are a bit old for fiscal years 1972 through 1974; the sample size is small. The panel members who did the initial rankings varied in their judgments and lacked an agreed-upon definition of financial health. Some of the assumptions required for the statistical analyses were not fully met.[5] But despite these limitations this study has fewer flaws than most which have been done to date, and its conclusions are consistent with the results of other research. The findings concerning institutional size, for example, are consistent with the data from a *Chronicle of Higher Education* Fact File for 1974 which listed 72 private colleges that had closed, merged, or "gone public in the 1970's." Of these 72 institutions, only five had enrollments over 1,000, and the largest enrollment was 1,600.[6] We do recognize, however, that many small colleges have survived for a number of years under "unhealthy" financial conditions. So the implications for survival may not be so forbidding as the report implies. Institutional anemia may be difficult to live with, but not necessarily fatal, especially when many small college presidents often seem able to come up with a shot of Geritol when things get critical.

Often there are local circumstances which exacerbate the general problem of rising costs or declining enrollments. An important support group may become disillusioned or shift priorities. Significant federal, state or local sources of funds for student aid or other special programs may be cut, phased out, or shifted to other purposes.

Like any other enterprise, higher education is subject to forces of supply and demand. The financial condition of a college is a function of the cost it incurs in providing education or other services in relation to the demand for what it has to offer. A programmatic alternative which increases demand may generate income which more than offsets added costs. In addition it may create a more broad and stable financial base. The first response to budgetary pressures usually is to spend time figuring out how to cut costs rather than trying to find ways to increase demand. We step up recruiting activities and study attrition. When the blood seems drained from those stones we may turn to curriculum development. Such development usually takes the form of new content to serve passing fads, emerging interests, or clear local needs. Only rarely do we seriously consider changes in structure, location, educational processes and resources which might make institutions more economical and more accessible.

Often particular costs are isolated for attention. Some time ago it became clear that increased maintenance costs called for more extensive year-round use of facilities. Now heating costs push some institutions to creative calendars. Nonresidential and off-campus alternatives have sprung up so that enrollments could increase without the prohibitive costs of new construction. Escalating instructional costs and fringe benefits for full-time faculty suddenly make part-time tutors, adjunct faculty members, practicing professionals and field supervisors legitimate members of the academy. Correspondence courses, televised lectures, personalized instruction and computer assisted instruction become acceptable alternatives to direct contact between students and teachers. But one major problem with this piecemeal approach, simply from the point of view of costs, is that it's like putting hot cloths on a boil. It may drain off the pressure and provide relief, but unless an antidote is found for the more general infection, new sore spots keep cropping up.

Conditions have now become such that the full range of considerations must be examined. For although we may find ways to handle cost increases, the

CURRICULAR RATIONALE

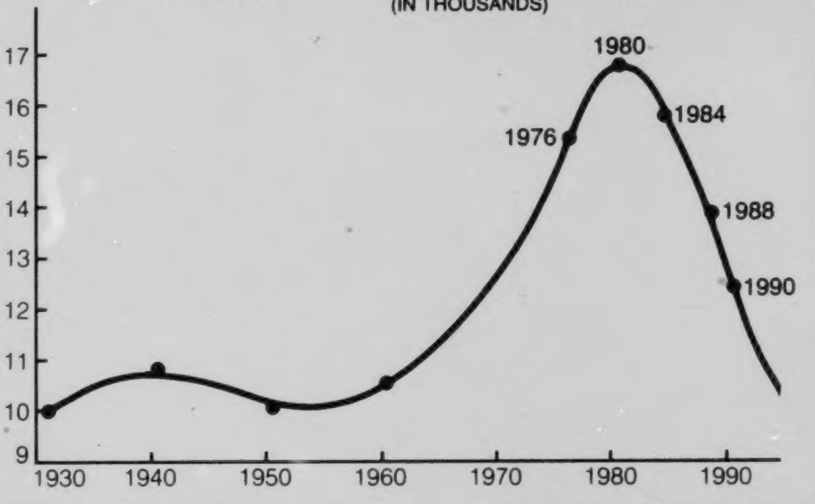
long-term enrollment trends tell us that such a response, though necessary, may not be sufficient. The hard facts seem unequivocal. Here's the way Cartter and Solomon put it:

> *The first and dominant factor affecting the employment future of academic men and women is the incontrovertible one of demographics. Since all those born this year [1976] will be 18 years old in 1994, it is possible to predict the size of the traditional college age group (those between 18 and 21) up to 1994 quite accurately, barring mass international migration, pestilence or plague. Although the years 1980, 2000 and 2020 may look quite similar with regard to age distribution of their populations, in between there will be some sharp readjustments, peaks and troughs, each with decided ramifications for the academy. Between 1980 and 1994, for example, there will be a 25 percent decline in the traditional college age group. Barring other student clienteles, this decline could mean a drop in full-time equivalent enrollments of 1.8 million students during the period in question, resulting in a reduction in total faculty size of 100,000 (assuming a traditional student-faculty ratio of approximately 15.1 is maintained). In 1975 total full-time, resident faculty (instructor and above) numbered 424,000.*[7]

One hundred thousand is about 24 percent of 424,000 or about one in four. That is a highly significant reduction.

In addition to these demographics, shifting patterns of college attendance are fast breaking up traditional routes to four years of college directly from high school. Delayed admission, interruptions and lifelong extensions of college learning have become respectable. These changes will further reduce the proportions of 18-21 year-olds in college. It is not unreasonable to assume that by 1985-90, the numbers of typical college age students will have dropped by 25-35 percent. The general demographies are complicated by regional shifts and imbalances. The "sun belt" is growing rapidly, and will probably continue to do so as the average age of the population increases. These shifts create

FIGURE 1 PERSONS 18-21 YEARS OLD (IN THOUSANDS)



BUREAU OF CENSUS, 1973

enrollment pressures in some locations as they leave vacuums in others. Enrollments at institutions in Texas, Arizona and New Mexico, for example, are rising rapidly.

Fortunately, as the number of traditional college age students declines, it looks as though the numbers of older persons will increase. The wave depicted in Figure 1, with its crest at 1980, will flow along through time creating similar crests among 30 year-olds in 1990 and 40 year-olds in 2000. Even if the proportion of adults seeking higher education remains stable, existing institutions will be called on to handle the wave as it goes through. But participation in higher education by adults has been increasing at the rate of about five percent per year. That rate cannot continue very long, but if it is sustained for only seven or eight years, a dramatic increase in demand will have occurred. Table 1 reports some projections which suggest what the actual numbers will be.

TABLE 1:[9] PROJECTED STUDENT POPULATION IN HIGHER EDUCATION

YEAR	AGE 18-24 (SEEKING CREDIT)	AGE 25+ (CREDIT & NONCREDIT)
1974-75	9.3 million	7 million
1980-81	10.0 million	11 million
1990-91	7.5 million	22 million

Now, the number of adults in higher education is less than the number of typical college age students seeking credit. But by 1990, if current trends continue, the total population will have almost doubled and there will be three times as many adults as 18-24 year-olds. Those trends will probably not continue in straightline fashion, but even if the rate slackens, the need to re-orient institutions to persons 25 years of age or older is inevitable.

Another source of students which may increase rapidly, at least for the next decade or so, comes from "developing" countries which have not yet established their own university systems. The flow is already becoming heavy from oil wealthy nations in the Middle East and South America. Although Chapman College had to abandon its "World Campus Afloat" program, its California-based campus currently exists with the help of enrollments which are 40 percent foreign students, mostly from the Middle East. Moslems outnumber students from any other religious background.

Thus, pressures for curricular development arise not only from depressed dollars and declining numbers of traditional college age students, but also from increasing numbers of new students who are not well served by traditional content, processes and resources. That increasing diversity is not adequately captured simply by statistics concerning older persons and lifelong learning. As Patricia Cross puts it, "It is now apparent that higher education tends to serve the full spectrum of learners—rich and poor, black and white, male and female, old and young, the able and not-so-able, the mobile and not-so-mobile. It also appears that colleges intend to offer the full range of subject matter—classical, applied, vocational and avocational. And it is clear that students can be campus residents, commuters, or people who never set foot on a campus."[10]

In brief then, there are three major forces directly felt by many institutions which press for curricular development: 1) financial exigencies; 2) declining numbers of traditional college age students, at the level of inquiries and application rates, if not in present enrollments; and 3) increasing numbers of students from varied socio-economic, racial and ethnic backgrounds, as well as those beyond typical college age.

NEW MODELS AVAILABLE

Higher education has responded to these combined circumstances in several ways: more diverse educational purposes are recognized; more diverse programs and processes are being developed; more diverse resources are being created or employed, more flexible time patterns are being used; more varied residential alternatives are being tested; and more wide ranging opportunities for experiential learning are being established. Moreover, these alternatives are being developed, not simply by a few, off-beat institutions pursuing some special cause or purpose, but by the full range from the established and elite, to the marginal and unsophisticated.

In contrast to the conformity of the 1950's and 1960's, we now have numerous models available, many of them fully accredited with solid public or private support. Alverno (see Appendix A) and Mars Hill Colleges (see Appendix B) give us examples of how competency-based learning can be introduced to a traditional private college. New College at The University of Alabama (see Appendix A) demonstrates how a new institution in the context of a large university can develop on strikingly different lines and lead to gradual changes in the larger corpus. Empire State and Metropolitan State Universities document the fact that state systems can initiate new alternatives for individualized education very different from other state institutions, new ventures that can both attract solid legislative and budgetary support and become regionally accredited in record time. Antioch College and The University Without Walls show how institutional networks and satellites of varying size and purpose can be managed by a single corporate entity, providing a broad financial base and great programmatic flexibility. Many other institutions, described later in this handbook, have provided examples suitable for adaptation by others. This range of working models means that any institution seriously interested in curricular development can find rich reserves of concrete experience, interested assistance, expert seasoned advice, and sometimes even research reports and concrete data.

With these models scattered around and reasonably legitimized, we can now pursue our own development, not simply to meet Maslow's needs for survival and security, but also in order to "belong," to keep up with the Joneses, and even to accomplish some institutional self-actualization.

Indeed by keeping a clear focus on academic purposes we may join, or remain in, the ranks of the "healthy," at least according to those who did the financial health study reported earlier. They indicated, "Healthy institutions were also characterized by an emphasis on academic mission expenditures. While the weighting of this factor is relatively small, institutions that emphasized instruction rather than public service or research, all things being equal, prove to be more healthy. This finding supports the thesis that institutions that spread themselves too thin in response to perceived societal pressures will be adversely affected in a time of slowed growth, and that institutions with a clear focus on purpose are more efficient."[11]

RESEARCH

Concurrent with these pressures and new models there is another factor which encourages change and which helps colleges make more intelligent judgments about promising alternatives. This is the growing body of research concerning various educational practices and their consequences, and the growing awareness of this work by college administrators and faculty members.

During the 1960's there was a burst of research and theory concerning general relationships between college experiences and student development. Feldman and Newcomb's major volume, *The Impact of College on Students*, summarized a staggering amount of work. Other volumes reported studies or projects: Astin and Panos reported on *The Educational and Vocational Development of College Students*; Chickering's *Education and Identity* reported research in thirteen small colleges and synthesized other findings concerning student development and educational practices; Murphy and Raushenbush's *Achievement in the College Years* reported a collection of significant studies of Sarah Lawrence and its students; Douglas Heath did the same in *Exploration of Maturity* and *Growing Up In College*, as did Joseph Katz, in *No Time for Youth* and *Growth and Constraint in College Students*. George Stern reported relationships between institutional press and student needs in *People in Context: Measuring Person-Environment Congruence in Education and Industry*; Mervin Freedman drew on the Vassar studies and other research to describe *The College Experience*; Kenniston carried out thought provoking studies of *The Uncommitted*; Newcomb, et al., gave us a thorough follow-up in *Persistence and Change: Bennington College and Its Students After Twenty-Five Years*. Esther Raushenbush did her penetrating and rich analysis of relationships between academic studies and student change, in *The Student and His Studies*; Nevitt Sanford drew on accumulated results to tell us *Where Colleges Fail*; James Trent and Leland Medsker carried out their massive follow-up study, reported in that under-recognized volume *Beyond High School: A Study of 10,000 High School Graduates*.

Recent reports speak to more specific areas of concern: William Perry's thoughtful studies of *Intellectual and Ethical Development in the College Years*; Chickering's studies of *Commuting Versus Resident Students*; research on college attrition reported in Cope and Hannah's *The Revolving Door* and in Astin's *Why Students Fail*; and Messick's collection of research on cognitive styles in *Individuality in Learning*.

The cumulative effect of such research, and many more sharply focused studies, is beginning to be felt. As the findings, principles and concepts from this work gradually seep into the consciousness of higher education, it makes the strengths and weaknesses of various educational approaches and learning environments more apparent, and it provides conceptual guidelines for formulating new approaches. Faculty committees and responsible administrators do not find themselves operating in quite the vacuum that seemed to exist during the 1950's and early 1960's, a vacuum that was felt despite much research on higher education which had occurred during the 1930's and early 1940's. Certainly it would be going too far to say that policy recommendations and plans for practice are now formulated with clear theoretical perspectives and on the basis of solid research. Neither the research nor the working knowledge of it has reached that level of sophistication. But it is true that the empirical basis for more well considered decisions has expanded, and more and more decision-makers are taking advantage of it.

ACCOUNTABILITY

Pressures for increased accountability have provided a strong stimulus for increased attention to pertinent research and theory, and to the instruments and methods on which they rest. Proliferating federal regulation has become one major force for accountability. A report in the *Chronicle of Higher Education* noted that "Colleges and Universities are faced with rules covering pensions, taxes, student aid, occupational health and safety, and veteran's benefits. They must comply with affirmative action regulations issued by the Departments of Health, Education and Welfare, Labor and Agriculture; with regulations protecting the rights of human subjects in government-financed research; with strictures guarding the privacy of student records. H.E.W. officials estimate at least 40 packages of regulations will be needed to carry out the new Education

Amendments of 1976 alone.

A survey by the American Council on Education (1975) found that institutions of higher education were spending between one and four percent of their operating budgets on complying with federal requirements."[12] One consequence of these proliferating regulations is increasing numbers of jobs for higher education personnel in various state and federal agencies.

Some recent legal decisions have also made colleges and universities more cautious about the outcomes they proclaim and more interested in generating evidence to support their programs. In *Grigg* vs. *Duke Power*, the Supreme Court ruled that selection methods and criteria must be pertinent to actual job requirements, and set the precedent. A woman sued the University of Bridgeport because, although she had been awarded an *A*, she learned nothing from a course which was supposed to improve her professional skills. Harold Hodgkinson[13] described a Columbia University graduate who owed the college tuition money. When the college tried to collect he sued for all the tuition he *had* paid, asserting that the college had not lived up to its claims, one of which concerned the honesty and trustworthiness of its graduates. Since, after four years, he was still willing to cheat the college, the college obviously had failed, and therefore should return his tuition. Stories like these, whether cases are won or lost, make us all a bit more circumspect.

Our circumspection is reinforced by pressures from parents, prospective students, board members, alumni, legislative committees—all of whom want evidence about what our college actually contributes. As tuition costs rise and a college degree no longer is a sure ticket for employment, consumers and supporters want to know what value is added for the money and time they invest. We don't have many clear cut and persuasive answers. Solid reports such as those by Richard Freeman, Herbert Holloman, and Stephen Dresch[14] purport to show declines in the monetary advantages of college education. And when a scholar like Christopher Jencks[15] suggests little or no contribution on the educational side, neither the popular press nor popular opinion is far behind—making assertions or asking hard questions. In 1973 David McClelland reviewed the literature and found, consistent with Hoyt's 1965 survey, that college grade point average bears little or no relationship to post-college achievement or success. He sums up by saying "Researchers have in fact had great difficulty demonstrating that grades in school are related to any other behaviors of importance—other than doing well on aptitude tests. . . . It seems so self-evident to educators that those who do well in their classes *must* go on to do better in life that they systematically have disregarded evidence to the contrary that has been accumulating for some time . . . being a high school or college graduate gave one a credential that opened up certain higher level jobs, but the poorer students in high school or college did as well in life as the top students."[16]

A more recent report in the *Chronicle of Higher Education* reflects some of the current ambiguities and complexities:[17]

> *New testing methods designed to measure the intellectual skills and mental qualities of college students have shown that in some respects undergraduates may get no more out of an Ivy League education than they would by going to a much less selective, academically weaker institution.*
>
> *The tests indicate, for example, that the college experience, in general, regardless of the quality of the institution attended, largely fails to increase student's ability to learn new material. The same appears to be so, though less convincingly, in the case of verbal fluency.*
>
> *A related finding suggests that superior students of the type pre-*

> *dominating in the Ivy League do not in any consistent way benefit more from college than do their less capable peers.*
>
> *Much of the evidence, however, points in the opposite direction. In some areas of intellectual activity, such as forming concepts and constructing effective arguments on both sides of an issue, undergraduate education is found to improve significantly what students can do. Moreover, these gains appear to be greater at an Ivy League institution than on less selective campuses.*
>
> *The results are said to mark the first time researchers have been able to substantiate the assumption that expensive, high-quality institutions yield such comparatively better educational outcomes for their students.*
>
> *But all of the findings taken together produce a somewhat mixed picture. In what developers of the tests term "cognitive maturity," for example, students tested at a small undistinguished junior college improved more after their freshman year than did students at a four-year urban college after three years. An Ivy League university's students improved most in this category, but not much more than those at the junior college.*

Perhaps the most striking thing about this report is its ambiguity and uncertainty. It is hardly the kind of clear-cut evidence we need to encourage support of higher education and persuade students and parents to keep enrollments strong and dormitories full. And even so, as Astin points out in a letter to the *Chronicle* editor, the research is flawed because adequate controls do not take into account differences in student ability and differential attrition patterns at the various institutions.

We recognize that scientifically sound research concerning students learning and development is most difficult to achieve, and that establishing casual relationships with educational practices is extremely problematic. But those complexities do not diminish the pressures for accountability or the concerns of consumers and supporters for better information. These pressures encourage each institution to study its own program and its outcomes as well as it can within the limits of its resources and expertise. When such studies are undertaken, the self-examination which results usually creates strong forces not only for curriculum development but for other changes as well. During the easy-going years of the 1950's and early 1960's, research could be left to a few interested professionals and to a few institutions curious about their own performance. But now, with escalating costs and shifting enrollments, general concerns for accountability call for self-examination on a much wider basis. And thus another major force for curriculum development is generated.

DECLINING EFFECTIVENESS, DISSATISFACTION, AND POLITICS

There are other immediate conditions which lead to curriculum development. There may be genuine questions about educational effectiveness. Perhaps those questions have been raised by some disturbing research findings; perhaps they grow out of a shared sense of increasing problems. Students may become apathetic, putting little energy into academic studies, investing little in their own development or in the institution. The numbers transferring elsewhere or dropping out may rise to a level which triggers institution-wide concern, which spotlights a particular department or division. The numbers admitted to graduate school, or who find challenging employment, may drop precipitously. Sometimes the sense of these changes is supported by hard data, and sometimes a few cases in which faculty members or administrators are particularly interested may combine to provoke action.

In addition, there may be direct intervention by students themselves who become dissatisfied, but who stay to make changes rather than leave. As institutional governance processes and structures provide greater openness for participation by students and others outside the full-time faculty, interest groups that experience shortcomings may try to create college-wide changes, or more limited changes for their own particular areas. Furthermore, as enrollments begin to pinch, student's interests and points of view are apt to be listened to carefully and taken seriously. The student customer may not always be right, but is worth attention; the student consumer may turn out to have influence which equals, or even exceeds, that of student activist.

During the 1950's and 1960's, plain old empire building was another major force for curriculum development. Departments, divisions, special programs and the like scrambled hard to create new alternatives and new functions. These in turn would add faculty salary lines, support services, travel monies, new offices and equipment. Increased institutional power followed. Significant extensions often responded to student demands for increased relevance to particular personal or social concerns they judged important. But often the new additions expressed particular faculty specializations which fell outside, or between the cracks, of existing courses and programs.

Now that motions for continued growth and expansion have been tabled indefinitely in many areas, institutional politics have become virulent. In many cases substantial energy goes into protectionism or cannibalization rather than into creating new alternatives which might increase demand. In other cases significant attention is given to new courses, structures, and processes which make the institution accessible to a wider range of students. Experiential learning, for example, which allows students to make use of work experiences, community activities, family responsibilities and the like, makes study more attractive to adults motivated by practical concerns. Arrangements for assessing and crediting learning which was acquired through non-school experiences prior to enrollment make an institution more attractive. An older student can start at a level pertinent to the knowledge and competence already acquired and needs less work to complete a degree. Contract learning, personalized instruction, correspondence courses, or televised instruction all make college level learning accessible to persons already leading full lives who cannot easily meet the constraints of time and place required by regularly scheduled courses on campus.

But new alternatives like these seem to favor some kinds of study and not others. They seem to offer prospects of security, growth and increased institutional power for some disciplines and areas of professional or vocational training and not for others. So institutional politics continues to lay a heavy hand on such changes in these tight times, even as it did during the prosperous 1960's. The battles become bitter, the lines hard-drawn as limited faculty mobility and threats of retrenchment make self-protection increasingly critical.

INSTITUTIONAL COHERENCE AND PURPOSE

Some institutions have developed the capacity to make small changes and introduce new alternatives here and there quite easily. They have an orientation which says, "We are willing to live and let live. Any person or department that comes up with a good idea is free to try it out with a minimum of red tape, at least on a small experimental basis. After two or three years we'll take a look at it." This kind of orientation usually reflects a healthy institutional self-confidence and openness. It creates a context where new ideas are valued and where changes can occur, even though they may not be noticed immediately. In such cases curriculum development tends to occur by incremental steps which never seriously challenge major institutional policies and which do not threaten enough other persons to provoke widespread opposition.

The only problem with this approach is that it can hinder institutional coherence and clarity of purpose. Often a college which has had a clear mission, a strong sense of community based on shared values, and a solid constituency and strong alumni—after pursuing such an orientation—finds itself diffused and weakened, without spirit, and a crumbling foundation.

It is easy to underestimate the importance of institutional coherence and clarity of purpose. Clear objectives make for internally consistent policies, programs and practices. They reduce the occasions when the impact of one program runs counter to another; they help faculty members operate in ways more congruent with each other. Most of us have little control over our routine behavior. Our manner of teaching, our ways of responding to students, and our allocations of time and energy, all are fairly well built in. To modify these in response to differing purposes and differing student needs and characteristics is enormously difficult. It requires a high degree of self-consciousness and unremitting efforts at self-correction. When institutional coherence is high and objectives are clear, such self-correction has a chance to operate. We can learn to work more effectively with certain kinds of students and under certain conditions. We can organize our time and energy to serve institutional objectives more directly. As Douglas Heath pointed out, "A community that has an ideal or vision, has, in effect, expectations of what its members are to become. . . . When such expectations are expressed in all structures and activities of the institution, then different communal experiences may mutually reinforce one another. It is rare that a specific type of educational experience is very significant in a person's life, as our data so clearly show. Rather, it is the coherence, the consistency, the 'atmosphere' of one's environment that makes its impact upon development."[18]

Institutional coherence and salient objectives also keep alive for students their reasons for being at the college. They, like the faculty, can more directly and actively pursue objectives they value; they can organize themselves as individuals and as groups more self-consciously to achieve certain kinds of progress. Thus, institutional clarity and commitment can generate similar clarity and commitment on the part of students, leading not only to increased efficiency, but also to higher levels of motivation. Further, when institutional objectives are explicit and widely-shared, students teach each other more effectively.

In time another factor begins to operate. Because the objectives and organizing principles are those of "the college" they can be perceived as somewhat outside and beyond any particular faction or group. Both students and faculty members can become identified with them, and each person's self-interest is tied to the realization of the objectives by oneself and others. Challenges will occur from the outside and efforts to improve effectiveness will be mounted from the inside. Then, clear objectives and institutional coherence provide a framework for debate and decision. This framework, and the spirit supporting it, helps temper the raw and unfettered exercise of political power for personal security or status.

Tempering those political forces is especially important in these times. For with depressed finances and declining enrollments there is a special danger when the "let a hundred flowers bloom" orientation operates without a larger sense of purpose or coherence. Under such conditions the criteria for encouragement and support become simply whether or not a new alternative will bring students and generate income. An institution thus becomes a holding company, ready to undertake anything that will turn a buck or an FTE. It can soon become the kind of corporate enterprise where quality of service, responsiveness to real needs, integrity of performance, and educational standards are forgotten in the need to continue to exist.

We all want to survive. But most of us want that survival to have some larger meaning. To operate without clear objectives is to sail without keel or rudder, subject to the shifting forces of wind and current. As the conditions began to go sour in the early 1970's, the answer was, "Be distinctive!" Institutions were admonished to stand out from the crowd, to develop some special character that would assure a ready audience and attract outside support. The problem was that many institutions simply slipped on a flashy cloak whose cut and material bore little relationship to the character underneath. An academic vice president at the opening of a workshop once said, "Our institution needs a new identity. What I hope to get from this workshop is that you folks will tell us what it should be." Someone gently observed that an identity grows from within, that it is not something someone else can lay on. The workshop might provide some information about varied kinds of institutional orientations, how they came about, and how they were nurtured. But the basic work would have to be done back home, joining with others in serious consideration of historical roots, current orientations, faculty values and competence, available resources, and likely constituencies.

After awhile "distinctiveness" give way to "diversity." Institutional prosperity, we are told, lies in being responsive to the wide range of new students seeking higher education. National conferences have told us how to go about *Designing Diversity and Individualizing the System*. Certainly most colleges will need to find ways to respond to students who range more widely than before in age, social class, academic preparation, prior experience, educational purposes, and cognitive styles. But those responses need to be developed within a context of clear institutional objectives (see Chapter Five). The presence or absence of such clarity will determine whether student learning and development is fostered, or whether, in a context of ambiguity and diffusion, the conflicting forces generated will immobilize students, leaving them passively uninvolved, uncommitted, and making little progress beyond that which comes from the momentum provided by forces operating outside the institution. Current reactions urging the reassertion of required courses and core curricula are a predictable though limited response to this problem. It is a superficial treatment of the symptom, a band aid for skin cancer, because achieving institutional coherence and integrity involves more than simply re-establishing certain course requirements.

There are good reasons for all this concern for curriculum development. Financial pressures and enrollment difficulties, increasing student diversity, and accountability requirements press sharply for change. Uncertainties about institutional effectiveness combine with an eroded sense of community, institutional purpose and coherence to give added drive. New models and a growing body of research suggest varied alternatives. But if responses are fashioned simply in terms of immediate pressures and institutional history, without regard for general social forces and larger trajectories of change, then they are likely to be dysfunctional or quickly outdated. The curriculum developments we undertake need to recognize major social changes underway.

NOTES

[1] Abraham Maslow, *Toward a Psychology of Being* (New York: Van Nostrand Reinhold Co., 1968), pp. 199-200.

[2] William B. Martin, *Conformity* (San Francisco: Jossey-Bass Inc., 1968).

[3] "Princeton Plans to Cut Staff and Raise Tuition to Reduce Deficit," *The New York Times*, January 30, 1971.

[4] A. H. Lupton, J. Augenblick and J. Heyison, "The Financial State of Higher Education," *Change*, September, 1976, pp. 21-36.

[5] See for example, Carol Van Alystyne, "Response Offered to *Change* Article on State of Higher Education," *College and University Business Officer*, NACUBO, December, 1976.

[6] "Fact File: Institutions that have Closed, Merged or 'Gone Public' in the '70's," *The Chronicle of Higher Education*, August 5, 1974, VIII, No. 39, p. 5.

[7] A. M. Cartter and L. C. Solomon, "Implications for Faculty," *Change*, September, 1976, pp. 37-38.

[8] Harold L. Hodgkinson, *Technology and Education*, presented at "Designing Diversity '75," Second National Conference on Open Learning and Non-traditional Study, June, 1975.

[9] G. Weathersby, *The New Learners*, presented at the Kansas State University "Conference on The New Learners: Challenge to Higher Education," December, 1974.

[10] K. Patricia Cross, "The Instructional Revolution," ed. Dyckman W. Vermilye, *Individualizing the System: Current Issues in Higher Education* (San Francisco: Jossey-Bass Inc., 1976) p. 50.

[11] Lupton, Augenblick and Heyison.

[12] K. J. Winkler, "Proliferating Federal Regulations: is Government Now 'the Enemy?'", *The Chronicle of Higher Education*, December 13, 1976, XIII, No. 15, p. 3.

[13] H. L. Hodgkinson, "Technology and Education in College," ed. Edward Cavert, *Designing Diversity '75*, University of Mid-America Conference Proceeding, June, 1975, p. 39.

[14] Richard Freeman and Herbert J. Holloman, "The Declining Value of College Going," *Change* 7 (September, 1975), 23-31; Stephen P. Dresch, "Educational Saturation: a Demographic Economic Model" *AAUP Bulletin* 69 (October, 1975), 239-247.

[15] Christopher Jencks and others, *Inequality: A Reassessment of the Effect of Family and Schooling in America* (New York: Harper and Row, 1973).

[16] D. C. McClelland, "Testing for Competence Rather Than for 'Intelligence,'" *American Psychologist* 28 (1973) 2.

[17] Robert L. Jacobson, "It Doesn't Matter Where You Go to College," *The Chronicle of Higher Education*, November 8, 1976, XIII, No. 10, p. 1.

[18] Douglas Heath, *Growing up in College* (San Francisco: Jossey-Bass Inc., 1968).

CHAPTER 2

Major Social Changes

Higher education has not yet reacted significantly to changes in the nature and role of knowledge, in work, and in the expectations of men and women. Neither have our objectives, programs or arrangements for learning recognized that the door is slamming shut on the age of individualism and that an era of interdependence is leaping out at us.

THE NATURE AND ROLE OF KNOWLEDGE

A person's world view—or an institution's—influences the way knowledge is viewed and used. One framework, suggested by Bois, proposes four distinct orientations which dominated certain historical periods and persist in contemporary forms.

There is the "age of primitive realism" which dominated until about 650 B.C. In this age the world is what I feel it to be. The world is as I sense it: see it, touch it, taste it, smell it and hear it. The world is like me. In me there is a spirit; in the world as a whole, and in each part of the world I deal with, there are spirits who rule. I have to come to terms with those spirits. I do so by rituals and magic. The superior man is the magician or witch doctor who knows the spirits and how to deal with them. In many "primitive" cultures today there are people who believe that there are "spirits" whose help can be invoked and whose wrath can be avoided by magic words and rituals. In other Western cultures, primitive in different ways perhaps, current analogues suggest a resurgence of this orientation. The numbers of persons exploring and committed to various beliefs about parapsychological phenomena, life after death, journeys out of body, the secret lives of plants, seems to have grown substantially. The various colorations of these groups shade over into those currently gathered under the umbrella of "humanistic psychology" and the Bethel-to-Esalen sensitivity training orientations. Notice how often expressed opinions, judgments, recommendations and analyses, start with the verb "I feel" rather than "I think." It is as though the two were synonymous, as though there were no distinctions between one and the other.

Then came the "age of reason," which might be placed from 650 B.C. to 350 B.C., from Thales to Aristotle. In this age the world is what I say it is. I classify things and create taxonomies. My thinking is orderly, my logic is sound. Objectivity is required. Mind and body are separate. Thought and feeling are compartmentalized. My logic, going from fact to fact, takes me through the world.

Then, around 1500-1900 A.D., from Copernicus to Planck, came the "age of science." The world is a machine. By asking the right questions, conducting the right experiments, and developing correct systems for measurement, I can discover how it works. Those discoveries will demonstrate natural laws with which I can manage the world for my own ends and make it run more smoothly. It is only a matter of time and technology until a brave new world can be fashioned where the four horsemen of poverty, pestilence, famine and war are unseated.

In about 1900 we entered the "age of relativism." This world consists of probabilities I create by my own way of looking at them. I have learned that even when I ask the right questions the answers come out in terms of my own frame of reference. They are bound by my cultural background and the historical period. Furthermore, the acts of measurement themselves influence the results I get. "Laws of nature" are only crude probabilities that provide risky odds on the underlying realities. My understandings are only partial. It's a long shot that any given action will have the consequences I predict.[1] This framework is consistent with Kuhn's current formulations which are receiving such widespread attention[2] (see Chapter Three).

As the diversity of our students increases in age and background, so does the frequency with which substantial numbers bring one, or a combination of these orientations toward knowledge. Curricular developments which assume that one or another of these orientations is the final answer, and therefore offer only limited ways of knowing, will miss the mark with many students. And furthermore, such developments are probably wrong.

The situation is further complicated by the information explosion, the rapid proliferation of new specialties, and the fragmentation of old disciplines. Throughout the world about 100,000 journals are published in more than 60 languages, and as of the late 1960's the number was doubling every 15 years. The articles written for those journals are produced by today's scientists who comprise 90 percent of all who ever lived. The work of these persons rests on a broad base of scientific and technological advances which have been growing exponentially. Graphs plotting such things as the discovery of natural forces, isolation of natural elements, time lag between successive discoveries, accumulation of human experience, speed of transportation from walking to satellites, the number of electronic circuits which can be put in a cubic foot of space, look like all the Sputniks and Cape Canaveral rockets going off at once. Most trend lines are fast approaching the vertical. Kenneth Boulding, for example, estimates that the dividing time for metal mining is about 1910; the amount of metal mined since then equals the amount extracted in all the years before.[3] Of course, exponential curves only grow to infinity in mathematics. In the real world they turn around, often with a catastrophic drop caused by the forces they themselves have set in motion.

These steep curves of technological change, scientific knowledge, and information generation have been sharpened by a brand new tool which itself has grown exponentially in use and complexity—the computer. You have to shake yourself to recognize that this instrument, now as common as Bossy and the buggy whip a hundred years ago, essentially began with the Mark I built at Harvard in 1944. (Even though Charles Babbage, at the University of Cambridge, had the idea in 1835). And it is hard to imagine that only 20 years ago, in 1956, there were fewer than 1,000 computers in the United States. Those computers had the spectacular capability of 12 billion computations per hour. But in 1966 there were 30,000 computers, and the hourly capability had reached more than 20 trillion computations. By now computers of all shapes and capabilities are found from the Pentagon War Room, through international corporations, small businesses and schools, into the pockets of housewives calculating grocery bills and budgets.

But the penetration and pervasiveness of computers is not simply a matter of numbers. As the numbers have skyrocketed, so has the range of applications. From straightforward and pragmatic to overwhelming potentials, the alternatives are numerous. Consider just a few: traffic control and rapid transit systems; identification of precedents and pertinent cases in law; drilling blocks and assembling automobiles, radios and other machinery; maintaining production records, breeding schedules, and feeding requirements for dairy cattle; assembling facts and comparing fingerprints to identify criminal suspects. Also maintaining industrial inventories and market projections; analyzing bacteria, viruses and other infectious agents to diagnose diseases; simulating and projecting economic conditions, resource use, space travel conditions, and manufacturing processes; reservations systems for airlines, trains, buses, hotel chains; and determining and controlling chemical proportions for varied products. Direct educational applications, beyond computer assisted instruction, include assimilating information about prior student experiences and recommending course programs, in addition to sorting and locating reference materials, graphs, and other information for library use.

The social implications of these changes are enormous in the volume of information and its rapid escalation; in underlying technology and the rate of scientific development; and in the computer and our capacity to store and manipulate information. And they have direct relevance for higher education and its curricula. We know by now that like the nuclear bomb, the computer sharply increases the need for perspective and judgment. These qualities cannot be left to a select few, who, by controlling the production and manipulation of information can thereby control the world in which we live and the directions it will take. We are not talking about generating persons who can write computer programs and trouble-shoot machinery. We are talking about Renaissance persons who have a breadth of experience and knowledge such that they can use massive information and the advanced intellectual tools made available in order to analyze business, political or social environments and make judgments about sound management and healthy development.

This brings us back to the critical importance of different ways of knowing and orientations toward knowledge. The theory, design and operation of computers is essentially an extension of a single mental process and way of knowing, an extension of mathematics, and the logic of binary systems. But we individual human beings do not lead daily lives that are essentially rational, logical, either-or. Our decisions and delights, anguish and ecstacy, love and work, rest in emotional responses, religious convictions, subconscious processes, and conditioned reactions. If we overlook these realities and build a world modeled primarily on additive either-or principles, humanity may be lost, our individualism confined to prescribed boxes which can be coded "1" or "0" and machine-processed for efficient handling. Thus we must keep alive other ways of knowing which are multidimensional and keep us aware of life's complexity and richness. We must keep our senses open and receptive, so common sense carries some weight.

Despite their obvious and powerful implications for higher education, can you think of any curricular changes which are more than token responses to these new conditions? How many colleges and universities have tried to recognize and enhance student differences in cognitive style and orientations toward knowledge? To what extent, for example, are courses taught, or independent studies designed, so that learning occurs through logical analyses, through case studies, through scientific experimentation, or through probabilistic analyses? Obviously not all subjects can be taught or learned through all ways of knowing, but we certainly can go beyond our typical reliance on a single approach. How many colleges and universities explicitly help students develop the intellectual skills necessary to deal with information, manage it, and make intelligent judgments with it? Bloom's *Taxonomy of Education Objectives in the Cognitive Domain*[4] describes the higher level skills of analysis, synthesis and evaluation and indicates how such skills may be tested. In the "knowledge society" those "critical thinking" abilities have indeed become critical. But you can probably count on the fingers of one hand the teachers or courses in your institution where systematic efforts are made to foster such abilities. Special courses in critical thinking are not needed. The research of Dressel and Mayhew at Michigan State University taught us that back in the 1950's.[5] The productive response is to make such intellectual activities part of all courses and independent studies. Then students develop intellectual competence in relation to substance and skills pertinent to their own needs and purposes, and develop the ability to use those intellectual skills as they pursue further learning to tackle problems on the job, in the community or at home. So far, however, at most colleges time spent preparing for classes and examinations primarily goes to memorizing and acquiring information, rather than learning how to manage it.

These are only obvious possibilities for curriculum development in response to this complex of major social changes. There are many more that can be detailed. The basic point is that any institution responding to immediate pressures should undertake changes which recognize these more general forces, lest the alternatives developed be already irrelevant or soon outdated.

THE WORLD OF WORK

When we talk about work we find ourselves a bit like the patriotic gentleman and the Monroe Doctrine. His friend said, "What's this I hear about you? They say you do not believe in the Monroe Doctrine!" The reply was instant and indignant: "It's a lie. I never said I didn't believe in the Monroe Doctrine. I do believe in it. It's the palladium of our liberties. I would die for the Monroe Doctrine. All I said was that I don't know what it *means*." In today's society it is hard to know what we mean by work. The dictionary is little help. The Oxford English Dictionary gives nine pages of small type to its various meanings, and even Webster's New Collegiate has so many definitions, many of which could apply equally well to vigorous recreation and leisure, that clear distinctions between work and a host of other activities are difficult to make.

Ancient man probably had no concept of "work." Primitive societies that still exist frequently have no vocabulary that distinguishes between "work" and "free time." In such societies a person does what is expected, which includes domestic duties, gathering and raising food, performing various rituals and ceremonies, occupying time with conversation, singing, dancing, sleeping, eating and sex. Persons feel as constrained to do one as the other. "Work" appears as a category we construct when we try to classify these varied activities. And if we limit the definition to those activities involved in gaining sustenance and producing goods, then in many primitive cultures persons spent much less time in work than we do.

Our Greek and Christian heritages clearly set work apart. In the Socrates of *Xenophon* work is an expedient and in Hesiod's *Works and Days* it is a necessity and a curse. The Bible indicates that work became necessary because of a divine curse. When Adam ate that apple he turned the world into a workhouse and threw away a Paradise without toil; the Lord said unto him, "Cursed is the ground because of you; in toil you shall eat of it all the days of your life; thorns and thistles it shall bring forth to you; and you shall eat the plants of the field. In the sweat of your face you shall eat bread till you return to the ground, for out of it you were taken; you are dust and to dust you shall return."[6] Work became a penance. This view reached full bloom as the Protestant ethic turned work and play into opposites and, in some of its more extreme manifestations, equated play with sin. Thus Western culture became imbued with the idea that if an activity is to be called work it must be something painful and unpleasant; something that we don't want to do.

This view would certainly not have been understood by medieval craftsmen nor by the craftsmen and artists who have made their way since then. Now we are moving toward a view that work is not a curse but a blessing. It may even become a privilege. Useful occupations are an antidote to stagnation. Complex and challenging work is less boring than pleasure. Achievement, contribution and productivity are the cornerstones for self-respect.

The dominant orientation in the U.S. certainly has moved beyond viewing work as a curse. We recognize its importance by calling it a "right" rather than a privilege. And that view expresses the centrality of work in our culture. If you don't have a job you are a misfit. To hold a job means to have status, to be identified with a way of life. The unemployed, if not wealthy, are seen as alienated, confused, unrealized, and otherwise seriously deviant. And the wealthy who do not turn their energy to good works are seen as superficial dilettantes or leeches on the social corpse. At the same time work has been occupying fewer and fewer hours in the lives of everyone and what we do grows less like "work" every year. Compared to the daily labors of most of mankind, the activities many Americans get paid for are not work at all.

Our changing orientation toward work as a right and not as a curse is consistent with the changing nature of the activities called work. These activities have shifted dramatically as we have moved from an agrarian, through an industrial and technological, into a "post-technological" society. Consider energy as one fundamental indicator. Half the energy consumed by man during the last 2,000 years has been consumed during the last one hundred. In 1850, in the U.S., 440 hours of horsepower were produced per person per year; in 1900 the figure was 1,030; in 1950 it was 4,470; by 1958 it was more than 5,000 and the figure continues to rise. That's a lot of horses. But now the horses are different. The sources of energy have shifted. In 1850 people and animals produced 65 percent of the horsepower and inanimate sources, 35 percent; in 1950, 98 percent was supplied by inanimate sources. People used to be major sources of energy. Now they manage and consume it in massive amounts. The need for individual labor as a means of progress and well being no longer really exists. What we need now are the skills to manage energy. This new type of work makes active participation, social power, worth and a sense of contribution difficult to achieve for large numbers of persons, because the effect of each person's work is determined not by the direct output from his labor but by the amount of energy he controls. The information explosion and the computer greatly strengthened the left hand of those who can understand and manipulate massive amounts of information. The shift to inanimate energy sources has greatly strengthened the right hand of those who can manage it.

In 1900 the majority of the American people were making a living on a farm. By 1940 the blue collar worker, the semi-skilled machine operator, the person earning a living on an assembly line dominated the work force. Today the center of the work force is the "service worker" and the "knowledge worker." That shift is vividly documented by Eli Ginzberg: "Almost the entire growth in post-World War II employment has been in the service sector. Among the goods producing industries only construction shows any sizeable increase. Agriculture declined by more than half, from some 8.6 to 3.5 million; mining declined by approximately one third, from 995,000 to 672,000. Manufacturing—the backbone of the economy—showed only a small absolute increase: approximately a third, from 15.6 to 20 million, which meant that its share of total employment dropped from about 27 percent to 21 percent."[7] In general, the share of the goods-producing industries (agriculture, mining, manufacturing and construction) in total employment dropped from 45 percent to 33 percent while the share of services (trade, government, education, welfare, transportation, utilities, finance and others) increased from 55 percent to 67 percent. In output, services increased from 31 percent to 41.5 percent while goods-producing industries dropped from 69 percent to 58 percent. And the most striking rate of growth within the services areas has occurred in the not-for-profit sector, which jumped by half in the years from 1950 to 1960, from about 20 percent to 30 percent.

These shifts have triggered other major changes. One is the rapid growth of female employment. According to Ginzberg, "Between 1950 and 1974 the civilian employment of males 16 years and over increased from 41.6 to 52.5 million, or by approximately 26 percent. During the same period the number of female workers employed increased from 17.3 to 33.4 million, or by 93 percent, three and a half times as much."[8]

Part-time employment also jumped. Ginzberg goes on to say:

> *Not only did the number of new job openings available to women increase but also the services were more able to offer less-than-full-time employment, a schedule of work that both the employers and many women preferred . . . the rapid expansion of service employment also opened up many opportunities for part-time or intermittent work for young people whose main activity was pursuing their education. The period after World War II witnessed a rapid expansion in postsecondary education supported in no small measure by the enlarged earning opportunities that were opened up for students in a broad array of service industries.*
>
> *One of the striking consequences . . . was the extent to which the prototype of a worker as a person employed full-time for the full year from young adult-hood until retirement no longer fits the American scene . . . of all people who work during the course of a year almost 45 percent are employed less than full-time for a full year; only 55 percent fit the stereotype of the conventional worker. Even if the calculation is shifted from the number of workers to the total work performed, one finds that about 30 percent of all work is performed by those who are not full-time workers.*
>
> *Another important concomitant of the recent expansion of services has been the substantial growth of professionals in education, health, management, science, engineering and many other fields. For two and a half decades, from 1945 to 1970, the economy was able to absorb the increasing output of colleges, graduate schools, and professional schools with no serious evidence of any weakening in demand. In part this balance reflected the relatively long time required to expand the structure of higher education and to fill the pipeline. In part it reflected the enlarged expenditures by government for research and development, which created a new market that absorbed many of the newly trained specialists. By 1970, however, the supply had overtaken the demand, and since then the outlook for educated manpower has appreciably worsened, particularly for people with degrees in the humanities . . .*
>
> *The foundation for an advanced service economy is trained manpower. This manpower is educated in the not-for-profit sector, thereby establishing the principle of complementarity between it and the private sector and illustrating the interdependence of the various elements of our pluralistic economy.*[9]

As we moved from an agrarian culture to a post-technological and service society there has been another significant shift in our center of gravity. That is the change from *making* a living to *earning* a living. Until the industrial revolution, most persons literally made their own living: raised their own food, fashioned their own clothing, cut their own fuel, made many of their tools and machines and kept them repaired. The family used to be the industrial and economic unit. The strength of the family was the strength, competence, and health of its members. But with the industrial revolution power became centralized in the hands of plant managers and owners. With the decline of the rural population and the growth of cities, almost everyone was forced to seek a job and rely totally on earned income. Now even farmers are primarily engaged in earning rather than making a living. For the most part they raise cash crops and are heavily dependent not only on outside markets but also on outside suppliers.

Now money income is the focus for effort and the only means to livelihood. This shift has had two major consequences. Perhaps the most striking is the helplessness of the individual. No matter what capabilities, energy, or strength she may have, survival and satisfaction depend upon conditions largely beyond individual control, upon indescribable social forces, and upon the decisions of unidentifiable persons and institutions. The corollary consequence is that complex networks of interdependence have replaced those conditions where individual resourcefulness and rugged independence were sufficient. It is not surprising that young persons disengaging from home and parents, reaching for a sense of self-determination, self-sufficiency, and autonomy often take to the woods or hit the road. Those are the only ways they can shake loose from tight networks of interdependence and test themselves against conditions that are clear, unequivocal and challenging. And we often see similar ingredients at work in older persons who give up a high paying Wall Street job or corporate position for a general store in the country, who turn away from being cogs in urban human services machinery to try their hands at private practice or as part of rural or small town units.

These changes are occurring in a context where, since 1900, the life span has doubled and the working life span has more than doubled. The average life expectancy of a man who reaches age 50 is 78, of a woman, 83. Older persons enjoy better health and more energy for more years. Moreover, the number of hours per year spent in paid employment has been cut in half during this period. The injuries and hardships of farming and manual labor, of factory work and housework, used to mean that by age 40 most men and women were worn out. Even though they started earlier, at age 12 or 15 perhaps, they had to stop or taper off much sooner. Now the 50 year-old who looks back at 25 years of professional or vocational achievement, can look forward to 25 more years, time enough to begin a completely new career, and also more than enough time for stagnation and despair. Retirement at age 65 is often premature and frustrating.

Then there are the qualitative problems which offer continued challenges to a service society. The key to effective service is quality not quantity. And achieving high quality in service areas is often much more complicated than producing quality goods. Furthermore, given human complexity and stubbornness, it is difficult to develop solutions and formulae that work for large numbers of cases. A television set is a complex instrument. But producing high quality sets in large numbers is much easier than producing high quality programming. Designing high powered automobiles, fast trains, and supersonic planes requires high level technical skills and scientific knowledge, but we are far from designing environments and related transportation systems that effectively serve human needs. In fact, in some cases we are losing ground. Motor trucks average six miles an hour in New York City traffic today, as against eleven miles per hour for horse drawn trucks in 1910. And given the escalating ratio of divorces to happy solid marriages it looks as though putting a chicken in every pot is much easier than having congenial family dinners.

More significantly, the service society sets in motion an insatiable and selfamplifying process. Services rendered will create demand for more services as we become aware of unmet needs which might be fulfilled. And the quality of services will always fall short of an ideal result. So there will be spiraling needs for increased competency, sensitivity, complexity and awareness, which will create demands well beyond higher education's current capacity to respond.

These enormous changes in the world of work, in life expectancy and in the post-technological and service society behind them, have consequencies which penetrate every aspect of higher education. Many already have been felt. The shift to part-time employment and the need for continued professional updating of skill and knowledge already has been reflected in the rapid rise of part-time students and in the numbers of adults seeking college and university work. We are challenged to create more effective integration of earning and learning, of vocational and professional training with liberal and general education. Experiential learning and the recognition of knowledge and competence gained on the job, in the community, and at home is rapidly moving across the landscape.

In the past the pressures for increased knowledge and the competence have been met by extending the years of schooling—first beyond elementary school to high school, then beyond high school to college, so that now almost 50 percent of our high school graduates pursue some form of higher education. This response has assumed the separation of schooling and work; it has assumed that in a given number of years an institution can cram into a skull most of what a person needs for the rest of life. Even if those assumptions made sense a hundred years ago, they are now absurd. None of us knows the knowledge and competence he will need 15 or 20 years from now. We do know that much of that knowledge does not yet exist. We know also that learning occurs most effectively when it connects with the immediate concerns of the learner, with important experiences and responsibilities, and that learning is lost fast if it is not built in through action and use.

These fundamental shifts mean that arrangements which viewed education as a preparation for life will no longer serve. Further extension through continuing and recurrent education will help. But those responses continue to separate living and earning from learning. We also must create new alternatives which make education part of life, which capitalize on educational experiences available through daily living, and which make use of learnings that can be gained from ongoing responsibilities. Curriculum developers will have to think seriously about these changes and the new realities they present if they are not only to respond, but to help manage these on-rushing waves of change.

SEX ROLES AND EXPECTATIONS

Expectations concerning the roles and responsibilities of women, and concomitant shifts for men, have been gathering momentum rapidly since World War II. In more long-range terms, the history of women cannot be separated from the history of humanity. Back in the days when people had to *make* a living, the status of women was clear and substantial. They were the home builders who constructed the yurts, pueblos, camel-hair tents, teepees and leaf huts. They were central to all forms of production: leather work, basketry, spinning, weaving, pottery, tools and agricultural products. In feudal castles the "lady" of the manor joined the lord on a managerial team that supervised a complex economic enterprise with servants, apprentices, employees, bailiffs, supervisors, and visitors. In pioneer times women shared the hard work of planting and harvesting; they fought and shot at their husbands' sides. They were an integral part of making a living for the family.

But a major shift occurred when the industrial revolution moved people from making a living to earning one. The helplessness and the dependence engendered by this shift has been experienced most keenly by women. As the significance of their role in making a living and managing a complex household diminished, so also did their status and equality. They were left behind as the centers of power moved from home and hearth to marketplace and factory.

Since 1900 women gradually have been establishing themselves as earners and recovering lost status. In 1910, 23 percent of the paid work force were women. During World War II the proportion grew to 35 percent, but at the end of the war, 3 million women left the work force. In 1920 *married* women comprised only 9 percent of the work force; during the depression that figure grew to 35 percent. By 1960, 60 percent of the female work force was married. By 1974 there were nearly 36 million women in the work force, almost 40 percent of the total number of persons employed outside the home.

These changes in life expectancy, work-life and frequency of employment outside the home were accompanied by trends toward smaller numbers of children and a large increase in the number of families headed by women.

Some of these changes have progressed further elsewhere in the world. In Poland, for example, women now account for 94 percent of the physicians, 84 percent of the engineers, 70 percent of the skilled workers, 70 percent of the biologists, 50 percent of the geographers, 47 percent of the chemists, and 40 percent of the mathematicians. In the course of only six years, from 1958-1964, the number of women engineers doubled. But there are still problems. A young engineer, son of a peasant family, father of a 4 year-old boy whose wife is working, writes:

> *In my family there is full mutual understanding. We believe that one child in a family is not enough, however; in our situation two children would be too many and this would mean that one of us would have to give up his aspirations, to interrupt work and to give up his life career. The share each of us takes in household tasks and family responsibilities is to my wife's disadvantage. I do the heavy tasks, while my wife does the everyday, ordinary chores which are more numerous and which take up much time. My wife attends to the child more than I do. Budget planning is her exclusive responsibility as is running the kitchen, despite the fact that we have domestic help. It is my wife who does the shopping. I only meet her at the station and help her bring the articles home. Most of the tasks which now unduly encumber her she has taken upon herself entirely of her own volition, believing that she herself can do them best. Even though she is a very industrious person, she did not try to make her life easier. I on my part, while doing various household tasks, thought how to rationalize and alleviate that work. At first, I invariably came up against my wife's objections until I proved the practical advantage of my devices . . . now my wife has changed her views and owing to that my share in the household work, in what is called 'female' tasks has grown. My role in this respect is usually a subsidiary one. I treat household tasks lightly; I dislike them greatly, I do them, however, out of a sense of responsibility or rather to have peace in the family . . . my wife is an equal partner in the family and I am glad about it. I strongly believe this should be the case in every family. The spouses should develop intellectually and keep pace with each other in this respect.*[10]

An inquiry conducted by *Filipenka*, a Polish bi-weekly for girls asked, "What is—in your opinion—the most important difference between your attitude towards life and that of your mother's generation?" The 675 replies were quite similar, reflecting a desire to acquire an education as a way to become independent and have a definite vocation. A characteristic response came from a 23 year-old teacher from a farm family: "People of my mother's generation believed that the most important thing in the life of a girl was to get a rich husband. Education was not important. I believe that it is first necessary to acquire an education, to enrich it continually and then to found a home with a man one loves."[11]

A similar survey of students at eight east and west coast colleges in the U.S. found that 82 percent of the college women consider a career very important for their self-fulfillment. They put career above marriage and having children.[12] Even male students represent a substantial shift in attitude; 86 percent of the men say that fathers should spend as much time as mothers in bringing up children.

These cultural shifts in the world of work and in sex role expectations create conditions entirely new to higher education. Most current educational forms assume full-time education prior to taking on adult responsibilities. They bring large numbers of students and faculty to a single location, require major investments in extensive campuses and expensive facilities, and restrict educational activities to classrooms and lectures. They build special laboratories and evaluate learning through verbal performances with pencil and paper. These forms clearly will not serve the emerging motives diverse students will bring in response to life-cycle changes and shifting social conditions. New forms of higher education have been stimulated by these changes. These forms, and others yet to be developed, must remain responsive to the continued changes which most assuredly will occur.

LEARNING TO LIVE WITH INTERDEPENDENCE

An elementary school teacher has a globe with a light inside. When the light is off you see the lines and colors of the world's political divisions. The boundaries go every which way, usually with no apparent logic. When you turn on the light, a glowing map of the world's natural areas appears. Here, the contours of ocean bottoms and mountain ranges, deserts, plains, jungles, forest lands, and glaciers flow in well-articulated curves expressing fundamental reciprocities. It's easy to flip the switch and go from one world to the other. But it's a flip of the coin whether mankind can create an analogous transformation before the political world destroys the natural world, and before the pressures from that destruction cause men to destroy each other.

There are other maps picturing analogues currently in place which ignore city limits, state lines, and national borders. Pull the airline folder from the seat pocket in front of you the next time you fly and note how little attention route lines pay to political subdivisions. Like the shipping lanes that led the way, they follow the great circle route, recognizing that those fundamental vectors serve best whether your destination is north or south, east or west. Above them orbit satellites tracing the eliptical paths determined by universal dynamics, bringing the common and uncommon experiences of humanity to every board room, living room, mud hut, barrio and favela. Underneath, the world is bound together, wired for action, by telephone and power lines which speed decisions and energy to carry them out.

Then there are the classic arcs of nuclear missiles. These do not halt for inspection at national borders or territorial subdivisions. Neither do the pollutants filling our air, our waterways, and our seas. Mankind's interdependence needs no extensive documentation. Fundamentally, it has always been there for most of the world's population, in the family, tribe, community and nation state. But now interdependence is escalating in significance and intensity. An article in *Forbes* magazine, March 1, 1966, stated:

> *The deadly effects of the population explosion aren't for tomorrow. They are here and now. Today. One billion people, a third of the world's population, drag themselves through the day weak from hunger, an easy target for disease and frequently death from starvation. Another billion are badly malnourished, almost on the borderline of starvation . . .*
>
> *The malnourished masses love their children as intensely as well-fed Americans love theirs. They are not about to starve peacefully and quietly, in patient resignation and fatalism, as their ancestors might have done. They know there is a world without hunger somewhere outside their dusty villages. They have transistor radios, and they have bumped in rickety buses into market towns. They have taken seriously the politicians' promises of a better life. They will riot and kill to achieve it. They are doing so right now.*[13]

In the eight years since then, the world's population has grown from 3.4 billion to 3.9 billion. In all the "underdeveloped" countries of the world the poor are poorer, the hungry, hungrier. The number of countries with known nuclear capability has increased from six to thirty. Soon the tank cars of plutonium generated as a by-product of nuclear power will put nuclear weapons in the hands of any country or terrorist group willing to risk a life or two.

But starvation and nuclear wars are not only routes to self-destruction. We may use up a few key non-renewable resources first, or find it impossible to contain resource wars where oil, aluminum, manganese, tungsten, tin, wheat, sugar—even coffee—become the weapons. The known supplies, time indexes, use rates and patterns of world-wide distribution detailed by internationally-recognized scientists and reported in such publications as *Limits to Growth*[14] and *Mankind at the Turning Point*[15] spell potentials for blackmail, bribery, and conflict completely unknown even thirty years ago. These data make it clear that our days are numbered until high levels of international cooperation will be required. And it doesn't make much difference whether those estimates, which are in the 40 to 100 year range, are off by 50 or even 100 percent, because the changes required will take every minute we have. For when those days of severe resource shortages arrive, national autonomy will have to be compromised as it never has been before. And in addition, for the first time in human history, self-sacrifice by the "haves" will have to go beyond token contributions by a benevolent Santa Claus, to levels of sharing which will effect the living standards of each person in the "developed" world.

But we don't need to think globally or abstractedly to recognize how tight the bonds of interdependence have become. Consider simply the basics of proximity and human interaction. "In Colonial America, the average density of persons was one per square mile. In a circle 20 miles in diameter (figured on the basis that ten miles was the greatest distance a person could walk to work and back and still do a full day's work), this yields 314 persons inside the circle with the rather obvious chance of human contact of 313 to 1. The opportunities for interpersonal communication and the exchange of ideas and information were rather limited. Today, Chicago has a population density of 10,000 persons per square mile inside a 20 mile-diameter circle. Opportunities for human contact are more than 3 million to one."[16] These population densities require that many different kinds of persons rub against and run into each other: blacks, whites, rich, poor, Oakies, intellectuals, rednecks and hippies. The fight for the five o'clock subway, where the conductor, like a blocking back, crams two more persons into the car so the door can close, is one small part of the daily round. These rounds are supported by complex arrangements for housing, transportation, heat, light, food, garbage and other basic necessities. Such conditions put power for major disruption in the hands of each person. They require unprecedented levels of interdependence, sensitivity, tolerance and social responsibility. Our escalating crime rates and the general malaise of the cities suggest that many of us still do not measure up to these requirements.

Perhaps the most important agenda for higher education, the most important objectives for a college or university, the most significant directions of change for those concerned with curriculum development, lie in this area. We have come a long way in developing educational practices which foster individual self-definition and self-realization. We have created alterantives to required curricula, providing opportunities for individually designed majors, contract learning, and other forms of personalized instruction. We have developed and made available diverse learning environments, multiple resources, and varied learning processes which respond to individual differences. We have asked students to become more clear about their purposes and to evaluate themselves in relation to their own aspirations for the future.

For the most part, these changes have been healthy for higher education and sound for students and their learning. They have helped students become more thoughtful about themselves and their education; they have helped each individual assume greater responsibility for her learning and development. But they have not asked students to confront their responsibilities to the larger social, economic and personal contexts on which they depend and to which they must contribute. They have not asked students to recognize that if these community structures weaken or atrophy, so also will the possibility for their own continued learning and development. It is time to redress the balance. Now we need to reinforce our respect for the individual and our concerns for individual differences with equal respect and concern for our families, our communities, our state and nation—and for our spaceship earth on which all of us ultimately depend. We do that by devising educational arrangements and curricula which help students recognize their many areas of interdependence—those areas in which they must depend on others and those contributions they can make to others—and help them develop the capacity to act in ways consistent with that new awareness.

What would those changes look like? Each of us could outline a set of possibilities expressing our personal prejudices and priorities. And ultimately that is what each college will have to do. But a closing metaphor can perhaps suggest some of the major ingredients to be addressed.

In less than a century—a blink of the eye in human history—we have gone from the horse and buggy to the space ship. Consider the differences:

SPACE SHIP	HORSE AND BUGGY
Complex man-machine symbiosis, each intricately equipped to complement the other.	Three loosely linked elements, each with its own idiosyncracies and needs.
Numerous parts machined to microtolerances, requiring replacement not repair.	Few moving parts, roughly fitted, easy to fix.
Complex back-up systems needed in case of breakdown.	An axe, a few tools, some bits of leather and metal can handle most eventualities.
Links to external mission control for monitoring, feedback and advice critical.	Own ears, eyes, nose and hands provide adequate information.

Individual is helpless without numerous support systems.	Individual resourcefulness and competence can handle most difficulties.
Specialized knowledge and competence required.	Horse sense, rough mechanical ability, and basic coordination usually enough.
Careful selection and training needed prior to take-off.	A little practice around the yard and most anyone can go to town.
Tight time frames for judgment and for coping with emergencies.	Time available for reflection, speculation, chewing it over with others.
Few second chances, little room for trial and error or consultation.	Lots of second chances, plenty of room for trial and error.
All or nothing consequences; decisions may mean life or death.	Consequences of misjudgment more or less painful, seldom catastrophic.
Individual freedom of movement and options for action highly constrained.	Can get off and walk, ride the horse, or push the dang thing if necessary.
Stability, competence, shared values of fellow travelers of key importance.	Fellow travelers can help; if incompetent or difficult they can be tolerated or asked to make their way alone.
Individual is insulated and isolated from nature.	Individual is dependent upon and in close touch with natural surroundings.
Individual is weightless, without a center of gravity.	Individual is tied to the earth, usually centered in familiar territory.
Global perspective on the world.	Usually can't see the woods for the trees.
Depends upon others to complete the trip, to pick up and take home safely.	Makes full trip on own, with help from the horse—of course.

Now some of these comparisons may be a bit overdrawn. It's fun to kick them around and easy to get carried away. Undoubtedly there are other differences. But the major thrusts are clear. What human qualities are needed as we try to jump from our horse and buggy into space ship earth? Can we articulate some of them? If so, maybe we can get one step closer to understanding the institutional arrangements and curricular developments that would increase our chances of a successful leap.

Perhaps the primary ingredient is *trust:* trust in other persons, in systems and institutions, in concepts, principles, and knowledge. For without trust there is no foundation for interdependence and cooperation. Without trust we are thrown back into defensive postures to protect our own self-interests. We are forced to develop other strategies to cope with institutions and persons where the game is played by other rules. Bargaining and negotiating, contracts and trade-offs, managed in light of relative power, become the governing dynamics. A hard look at current patterns in the U.S. forecasts a tough future for *trust*. Legal knowledge to cope with an increasingly legalistic society is almost required. From 1965 to 1975, the number of new admissions to the Bar, according to the American Bar Association, increased 160 percent. Law school enrollments and the numbers of students seeking legal education has skyrocketed during the same period from 59,744 to 116,991. In many areas defending a home or apartment becomes a major enterprise. Institutional purposes, shared values, and a sense of community are lost in preoccupations with collective bargaining and adversary relationships. Marriage "contracts," negotiated and re-negotiated according to agreed upon schedules, become the model for a relationship heretofore assumed to embody maximum concern, caring, commitment and trust. To even mention *trust* smacks of naivete and utopianism. But it remains fundamental to human interaction.

The second key ingredient is *competence*. We need the intellectual competence, knowledge, organizing concepts necessary to handle information, and manage energy and scarce resources in ways that lead to productive rather than destructive outcomes. We need to understand how individuals, organizations, social systems and political entities work, what moves them and how they are constrained.

We also need *social sensitivity* to recognize what is happening before it hits us over the head; to recognize reactions, events and consequences as they begin to appear on the horizon rather than while they are breaking over us.

Then we need the *interpersonal skills* to work effectively with others, recognizing their styles, needs, strengths, and weaknesses; and seeing them in the perspective of our own peculiar combination of characteristics.

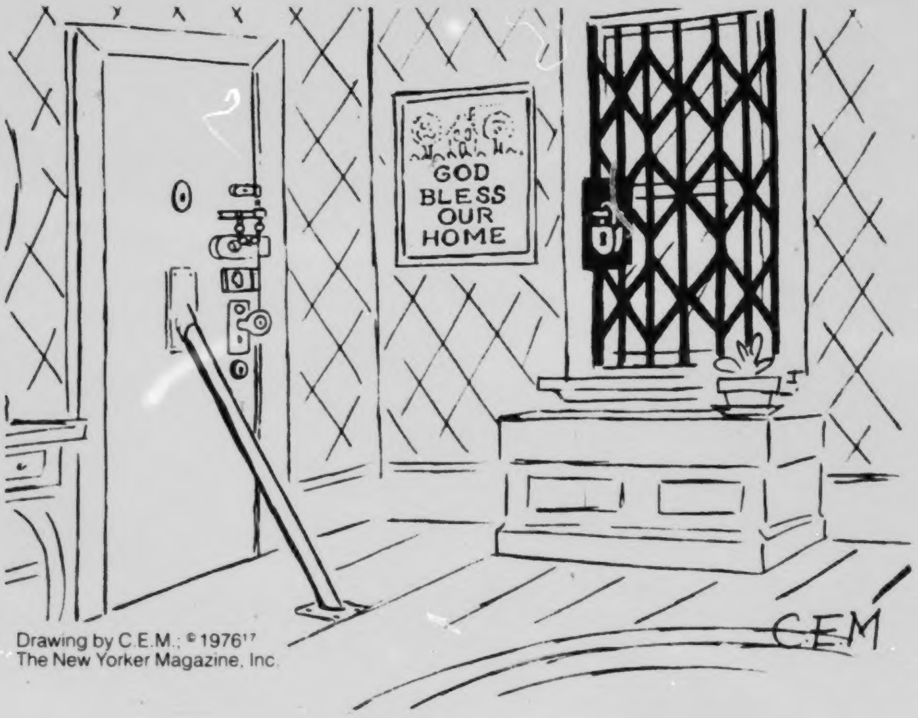
With all these we need *adaptability*, the capacity for change and adaptation ourselves. We need to learn to hold our views with tenuous tenacity, to change our behaviors, not like the bulrushes with every passing breeze or current, nor even bending to the whirlwind, but when conviction says we must. Indeed, we ultimately may have to reassess and redefine what have seemed to us basic needs, longstanding habits, built-in requirements for satisfaction and growth.

But above all there are two capstones of maturity. One capstone is *humanitarian concern* which has been called: "the development of social interest" by Alfred Adler; "generativity" by Erik Erikson; the "extension of the sense of self" by Gordon Allport; or a "trend toward homonomy" by Andras Angyal. "The individual longs," wrote Angyal, "to become an organic part of something that he conceives as greater than himself . . . to be in harmony with super-individual units, the social world, nature, God, ethical world order, or whatever the person's formulation of it may be."[18] Adler spoke of "fellowship in the human community" and "sense of human solidarity."[19] Allport said, "Maturity advances in proportion as lives are decentered from the clamorous immediacy of body and egocenteredness. Self-love is a prominent and inescapable factor in every life but it need not dominate. Everybody has self-love, but only self-extension is the earmark of Maturity."[20] Without this basic capacity for self-extension there can be no significant expression of social interest, no solid recognition of interdependence, and no sustained action in its service.

The other capstone is *integrity*. For this quality, the simple dictionary definitions have power enough: "1) State or quality of being complete, undivided or unbroken; entirety, 2) Unimpaired state; purity. 3) Moral soundness; honesty, uprightness."[21] Erik Erikson describes the ground in which integrity is rooted: "It is the acceptance of one's one and only life cycle as something that had to be and that, by necessity, permitted no substitutions . . . Although aware of the relativity of all the various life styles which have given meaning to human striving, the possessor of integrity is ready to defend the dignity of his own life style against all physical and economic threats. For he knows that an individual life is the accidental coincidence of but one life cycle with but one segment of history; and that for him all human integrity stands or falls with the one style of integrity of which he partakes."[22] Integrity is the necessary counterpart to our first requirement, *trust*. For our trust cannot be accepted if we are not trustworthy ourselves. And being worthy of trust is more than simply avoiding deceit. It rests fundamentally on being reasonably predictable and understandable. We do not trust the weather, not because it is deceitful and willfully misleading, but because we know it functions in response to complex combinations of pressures. It has no backbone, no principles, no anchor blocks. We've all met persons like the weather: honest, sincere, candid, but like weathervanes, the positions they take one day turn around the next as pressure systems shift. Their new actions and orientations are taken with equal clarity and sincerity, but soon suffer the same fate. Integrity, rooted as Erikson suggests, provides a base that makes us trustworthy and thereby empowers our trust of others.

Can higher education contribute to these qualities required by an interdependent world? Can we develop institutional arrangements and curricular patterns that foster trust, competence, sensitivity, interpersonal skills, and adaptability? Can we help ourselves and our students develop the social interest and extension of self required to leap from the horse and buggy into spaceship earth? Can we move toward a kind of integrity which will sustain us through the major social changes underway? Let us hope so. At the least, we can take a stand so our orientation and actions are consistent with this major direction of social change, rather than contrary to it.

This chapter is not the place to think through possible alternatives for institutional change. But there is plenty of grist for the curriculum development mill for a college which takes the issue seriously. For every institution now is much like spaceship earth, penetrated and pervaded by networks of interdependence. Each of these provides opportunities for learning and action. How are relationships between the institution and its local community, its state, or the federal government handled? How are alumni and key supporters dealt with? How are the interdependencies between the students and the institution managed, and the interrelationships among administration, faculty and staff? We operate with scarce resources in tight time frames, under conditions more like a spaceship than a horse and buggy. Can we solve the problems of trust, competence, sensitivity, interpersonal relations, and adaptability? Can we extend ourselves to larger social concerns and function with integrity? Perhaps the best place for curriculum development to begin is right at home. And if we can make a difference here, there may be some hope for a future larger than ourselves.



Drawing by C.E.M.; © 1976[17]
The New Yorker Magazine, Inc.

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2

Curricular Design

By DAVID HALLIBURTON

David Halliburton is Director of the Center for Teaching and Learning and the Lilly Program for Faculty Renewal at Stanford University. At Stanford, where he is also Associate Professor of Comparative Literature and Modern Thought and Literature, he has been a leader in the creation of innovative programs. He assists a wide range of institutions in various phases of educational development.

In Part Two attention shifts to the basic nature of the curriculum per se. These might be called the "what" questions—what are the motives for reform from the standpoint of actual curricular design? What general principles can be stated that lay the groundwork for reform? What are the assumptions that underlie particular academic disciplines, especially with regard to curricular practice?

In Chapter Three, after a brief definition of the term "curriculum," Halliburton considers three ways in which curriculum becomes obsolete, with emphasis on the "dynamics of the disciplines." The key concept is that of the paradigm, borrowed from Thomas S. Kuhn's The Structure of Scientific Revolutions. *To speak of a paradigm is to point to a nexus of assumptions on which some academic activity is carried out. It furnishes patterns, often taken for granted, both for research and for pedagogy. It determines not only "how" one goes about studying or teaching; it also determines "what" one studies or teaches, by defining what questions are to be asked, and the mode in which the questions are to be put. Halliburton argues that paradigms underlie not only the various disciplines but the higher education system itself. He underlines the importance of paradigm shifts—when one nexus of assumptions begins breaking up, to be replaced by a new one—and suggests examples of such shifts today.*

This chapter on perspectives also includes a discussion of some general principles voiced by a series of curricular analysts and theorists, ranging from the long view of Alfred North Whitehead to P. W. Musgrave's idea that curriculum as process helps to create, in complex modern societies, educated persons who have "the power to produce reality." The chapter concludes with the liberal arts curriculum, which remains one of the most discussed curricular types. Here emphasis falls on the relation of skills to values, and on the relation of liberal learning to everyday living.

In Chapter Four, "Designing the Curriculum," Halliburton discusses the components of a college curriculum in light of the difference between disciplinary and interdisciplinary approaches, and the relation between these and other problems, including the role of curriculum in relation to teaching and learning, to activities that fall technically outside the curriculum, and to questions of the academic clock and calendar. After outlining the "fundamental disciplines of thought and action" he examines, as a kind of test case, a competence-based curriculum in the liberal arts.

This is followed by an analysis of the advantages and disadvantages of disciplinary approaches to curriculum. While defending departments for their role in preserving hard won traditions and furnishing a measure of quality control, the chapter stresses the opportunities afforded by approaches that draw in various ways on more than one discipline. Halliburton describes several structures for interdisciplinary courses and programs, illustrating these with specific examples or accounts of what could be accomplished. After outlining an innovative, interdisciplinary curriculum, Halliburton lists the advantages it offers, as well as one major disadvantage, suggesting that disciplinary and interdisciplinary approaches should relate to each other dialectically, interacting while preserving their respective identities.

Chapter Four also deals with the impact of curricular reform on teaching and learning, the relation between such reform and three types of student development models (humanistic, developmental, and multidimensional), and some strategies for modifying the use of time in the classroom and throughout the academic year of an institution.

In the concluding pages of the chapter, Halliburton discusses curricular decision-making, arguing for a flexible, non-linear, open-ended approach that makes it possible to initiate change in response to a wide variety of needs, beginning at virtually any point in the academic process. He stresses the need for revising curriculum on the basis of clearly specified institutional premises, institutional capability, the needs of learners, and variously defined costs. Finally, the decision-making process is related to the necessity of orienting change according to a series of scales: from the less to the more specialized; from concentration to diversity; from disciplinary to interdisciplinary.

CHAPTER 3

Perspectives on the Curriculum

MOTIVES OF REFORM

The question has been posed: why should educators look at the curriculum as a whole? Why look at the curriculum at all? The first two chapters of this handbook offer answers to these questions from the standpoint of broad social needs, educational trends, and historical context. Subsequent chapters offer answers from the standpoint of different curriculum models and the implementation of the curriculum. This chapter considers a different kind of "should." It asks: what should curriculum be, given the assumption that it needs to be altered? With respect to motivation the question becomes: for what reason do we bother with curriculum reform?

One important reason is that curriculum becomes obsolete; and this can happen in at least three ways.[1] First, in the course of time the role of education changes with respect to broad historical trends and social needs. Secondly, and just as important, autonomous changes transpire within the higher education system itself. Trends begin to form, take shape, peak and fade away. Institutions adapt themselves to patterns followed by other institutions, and so on, in cycles that seem to spin along, autonomously, at their own rate. Such modifications may respond to the changes involved in the first motive for reform, indicated above, or may be intended to respond to such changes. But the dynamics of the higher education system are such that the shifts that transpire often make more sense in terms of the "inner logic" of a given institution than in terms of the broader considerations proposed as our first reason.

The third important way in which curriculum becomes obsolete involves the dynamics of disciplines. A convenient means of approaching this problem has been furnished in Thomas S. Kuhn's *The Structure of Scientific Revolutions*.[2] The crucial concept in this study is that of the paradigm. In ordinary usage, Kuhn points out, paradigm indicates a model or pattern to be reproduced. An architectural blueprint may be regarded as a paradigm of a highly prescriptive type since it dictates the shape, composition and scale of physical structures to be constructed. This can be compared with a paradigm for conjugating verbs in a foreign language. In French, for example, regular verbs have endings that are predetermined: a speaker merely combines the root of a given verb with the appropriate endings. The advantage of the arrangement is that all verbs of the same type branch out into the same sets of endings.

But Kuhn understands paradigm in a broader, more powerful sense. A paradigm, roughly, is a nexus of assumptions providing a basis for thought and action. These assumptions are shared by members of a community—research scientists working within a specialty, teachers belonging to a particular academic discipline, college administrators coping with shared problems. The assumptions may vary from group to group; and they may be implicit rather than explicit. The common factor is that each set of assumptions makes sense for each group or community. A paradigm thus designates a collective habit of mind with a variety of built-in values and types of behavior.

A paradigm has more to do with the concept of law than with the concept of rules. A paradigm, "like an accepted judicial decision in the common law . . . is an object for further articulation and specification under new or more stringent conditions."[3] To unpack this statement one must distinguish between common law and statute law. The latter embraces enactments by a legislature, expressed in a binding manner and constituting (in many European countries, for example) a strict and elaborate code. The Anglo-American tradition, by contrast, has developed a tradition of common law with a judicial rather than legislative orientation. Judges operate on the basis of precedent and the interpretation of precedent. Common law is, in short, the law of courts, based on a dynamic equilibrium between the demands of tradition, with emphasis on flexibility.

A paradigm, like a judicial decision, provides a basis for making further decisions without determining in advance precisely what these will be, since this can be known only when the relevant new conditions are known. When the U.S. Supreme Court ruled against segregated schoolings in 1954, it based its decisions on a nexus of assumptions—a paradigm—concerning equality among the races, thus providing a collective interpretation of traditional precedents—the crucial element being the Constitution itself.

Such action presupposes other things in turn. These include: an adversarial relationship between parties, with one side making specific claims and the other side making counterclaims; a hierarchical power structure enabling the third element in the picture—the judges on the bench—to decide in favor of one side or the other (or to negate the proceedings by throwing the case out); the certainty that the decision is enforceable by the ultimate police power of the state, as legitimized both by precedent and by statute; and so forth. As history has shown, a long and twisting road often extends from such decision making to implementation. The power of a paradigm is not to predict every twist, but to decide in the first place what road should be taken, and then to determine its general direction.

The implications of holding a paradigm may be illustrated, at the risk of oversimplification, by two familiar ways of explaining the physical universe. To the ancient astronomer Ptolemy it was obvious that the earth was at the center, that it was stationary, and that other bodies such as the sun and the moon revolved around it in a uniform manner. But the same "reality" looked radically different to the Renaissance mind. Copernicus insisted that the universe, including the earth and the moon, revolved around the sun. Each astronomer saw "reality," but from the perspective of different assumptions—in short, of different paradigms.

The transition from the Ptolemaic to the Copernican perspective is an example of a *paradigm shift*. Kuhn likens such a shift to a "switch of gestalt"—a sudden change in the way of looking at things. In the words of Herbert Butterfield, a change of this type means "handling the same bundle of data as before, but placing them in a new system of relations with one another by giving them a different framework."[4]

A similar process occurs when a psychology teacher or an art teacher shows a graphic design in which two different but compatible shapes are merged. In one familiar design some students first see a rabbit, then a duck; others first see the duck, then the rabbit. But at some point everyone makes the switch from one to the other, seeing that the figure of the rabbit, if differently viewed, is also the figure of a duck, and vice versa. Such a change in visual gestalt—in the configuration of a physical appearance—is not a perfect analogy to a paradigm shift. It serves, nonetheless, as an adequate approximation for the purpose of this discussion.

IDENTIFYING PARADIGMS

It would be presumptuous to try to identify, out of hand, the paradigms that underlie various academic disciplines or our educational system as a whole. It is largely to avoid this presumption that the concept is employed here in a broadened sense. The very fact that it is broader increases its usefulness, as its increasing application in higher education is already making clear. Should these applications continue to grow in number, and should they also improve in quality, one can anticipate the time when it may become possible to show the paradigms underlying any given academic field, or the higher education system as a whole.

In the field of history, for example, divergent tendencies and idealogies currently prevail. Among those claiming a long-standing influence are positivism and individualism. According to positivism, human intellectual "progress" goes through a theological stage in which things are explained in ultimate, supernatural terms, and a metaphysical stage in which things are explained in relation to transcendent ideas or abstract energies. The third and final stage is that of positivism, which relies on the more scientific procedures of empirical observation, the building of testable hypotheses, and experimentation. A positivistically-oriented history is regarded as a basically neutral description of "facts" which are thought to be independent of the interpreter.

According to an individualist approach, events reflect the behavior of distinct historical agents. These may be outstanding persons (Hegel's world-historical figures or Carlyle's great men). Or the emphasis may fall on the notion that events result from acts performed by individuals of all ranks, not just by powerfully placed individuals. Such a view places faith in psychological explanations of motivation, the concept of the person, and the ethical sovereignty of the individual. The positivist approach, carried to the limit, results in the recitation of supposedly self-evident "facts" such as dates, names and places in linear sequences without any connectors explaining how anything in the sequence relates to anything else. The individualist approach, carried to the limit, results in chronicles of solitary figures (a king, a minister, an artist, a general) who loom larger than life. History becomes a series of biographical vignettes, of "great lives" which rise like mountain peaks above the valleys and plains of everyday social life. The student must then leap from peak to peak—a literal leap of faith which must be carried out again and again—at the expense of exploring the vast historical terrain which such an approach, because of its individualistic paradigm, must necessarily neglect.

In contrast to these approaches, forces are at work today to achieve what has been called "a new kind of history."[5] The new historians argue that collective structures matter more than individual expressions or deeds; and they believe that historical phenomena interact in a systematic way. Familiar concepts, such as milieu, receive new attention and are at least partly redefined. A milieu ceases to be regarded, for example, as an orbit of factual fragments (anecdotes, biographical bits and pieces, and the like) revolving around some solitary figure. Milieu is studied as a powerful system of values, habits and interests which everyone takes so much for granted that they seem "natural." A positivist orientation, as described above, harvested its bundles of supposed facts from this supposed "nature." But according to the newer view, milieu is a "second nature," an ensemble of norms collectively developed and collectively maintained. Another feature of this new historical program—not surprisingly—is the investigation of the training that shapes such norms. Such an investigation is warranted because training—which includes formal education but also instruction in practical skills—influences everyone.

Within the broad category of this new kind of history one might include the researches of Fernand Braudel, who has studied the history of the Mediterranean region and the history of Western-European material life.[6] To those trained in more conventional ways, the results look odd. In Braudel's study of material life, for example, little or no significance is attached to individual kings or queens, to prime ministers or bishops, to generals or parliamentarians. The author presents, instead, broad demographic patterns, drawing upon collections of data concerning the type, availability, cost and utilization rates of foodstuffs, such as salt. In his study of the Mediterranean, Braudel does not dwell upon the contents of selected written communications, as would a practitioner of traditionally oriented diplomatic history, but upon overarching factors such as the cost and speed of communications services covering large geographical areas and long periods of time.

To get a feel for the practical difference between more conventional approaches and the newer one, one could imagine the following contrast (entirely imaginary and exaggerated in order to make the point). In a conventional diplomatic history, the reader is presented with policies, plans and procedures as they are spelled out in state messages (e.g., a minister's letter to his sovereign, a general's battle strategy), during the course of which the author of the message perhaps mentions a type of tobacco he would like to obtain. In a history of the less conventional sort, all this is translated into a different, more "symphonic" structure in which there are (to carry out the musical metaphor) more instruments, more keys, and a more deliberate effort to see the totality as a system with interdependent parts and actions. Reference to one man's preference in tobacco is replaced by a study of the discovery, cultivation and spread of tobacco plants, at different times and places, in relation to broad patterns of collective preferences—specifically, to trends, fashions and fads. At the same time, the study of particular messages is replaced by a study of the communications systems which made it possible for any message to be conveyed: the means of transport, the characteristics of the physical medium (paper and ink, telegraphic signal), the legal political and economic structures that organize and maintain the required services, and the incentives and disincentives (a government subsidy, a stamp tax) that apply in different places at different times. Instead of a narrow, close-range view that causes a particular individual to loom misleadingly large, the student achieves a wide, long-range view that potentially throws everything into a more comprehensive perspective.

Similar in orientation is "cliometrics," a name derived from Clio, the muse of history, and "metric," for measurement. This amounts to "quantitative history," based on the gathering and analysis of data employing sophisticated mathematical techniques. The test case, in the United States, is William Fogel and Stanley L. Engerman's *Time on the Cross: The Economics of American Negro Slavery* (Boston: Little, Brown, 1974). Fogel and Engerman put their controversial study in the context of revisionist approaches to history which are themselves aspects of a shift in disciplinary emphases:

> *What is not generally known is that the traditional interpretation of slavery has been under intensive review for almost a decade and a half by historians and economists who are trained in the application of quantitative methods to historical problems. This review involves the processing of large quantities of numerical data. Although these data have been available for some time, the techniques required to analyze and interpret them systematically were not perfected until after the close of World War II. Then a series of rapid advances in economics, statistics, and applied mathematics, together with the availability of high-speed computers, put information long locked in obscure archives at the disposal of a new generation of scholars.*[7]

Using these techniques, Fogel and Engerman claim to overturn ten major assumptions about American slavery, including the assumption that the system was not kept in irrational existence because plantation owners failed to see its economic deficiencies; that the slave-based agriculture was inefficient; that the black family was consistently broken up by sexual exploitation; and that the living conditions of slaves were no worse, on average, than those of industrial workers.

Despite the supplementary, technically-oriented volume which Fogel and Engerman published in support of their claims, *Time on the Cross* has become the focus of a widening debate about fundamental assumptions and about the procedures in which these assumptions are embodied. It is, in short, a debate about paradigms which resembles at times an uncoordinated but meaningful attempt at values clarification. Going a step further, the popularity of "values clarification" of all kinds may itself indicate a half-conscious recognition of the power of paradigms. For paradigms generate values—they "predict" the basic direction in which a person or a group of persons will go, and are thus a form of values in action (see Chapter Six). To clarify values is to become aware of such direction. The next stage—for those concerned with paradigm-clarification—is to retrace the path in question back to the point of departure. That point is not, of course, a location in a spatial sense. It is, again, a set of assumptions which, like a judicial decision in common law, governs a series of thoughts and actions which together constitute "reality." Conflict arises when it becomes apparent—as in the case of the ancient astronomer vs. the Renaissance astronomer—that there *are* paradigms.

In a broad sense, one can say that the curriculum has the power to produce reality. Furthermore, the paradigm, like the curriculum, can change. And finally, paradigms, like curricula and the higher education system generally, can be unlocked by the key of interpretation. This section is an attempt at such unlocking, on the assumption that changes in curriculum are more likely to come about when examined against the background of changes in paradigms.

FURTHER IMPLICATIONS OF PARADIGMS

The trends in history, as noted here, appear to suggest that this academic discipline is in a critical period not unlike periods during which, in other fields, paradigm shifts have begun to emerge. Now it may be doubtful that shifts of this kind are emerging in most other disciplines, let alone in all disciplines. But there can be little doubt that some form of paradigm—in the broad sense employed here—underlies most if not all disciplines. My own experience with several disciplines suggests that the discovery of a paradigm often reveals much about their own "internal" history. Looked at in this way, a discipline or field is revealed as a process that has unfolded and is unfolding still, and which only seems to be stationary. For the fixity of fields is relative. Some change faster than others; but all change. An academic field is an organized form of life not unlike the life of the curriculum, which reflects the assumptions, values, and habits of its practitioners. To understand the paradigms that underlie disciplines, and the shifts that alter them, is one way to start thawing the curriculum, which otherwise remains as solid as a glacier.

UNDERLYING ASSUMPTIONS

Some important assumptions underlying higher education curriculum may be drawn into the open, at least in a tentative way, by the type of procedure employed here. Tentativeness is stressed because of the sheer size and complexity of the college curriculum, which typically includes offerings in art or art history, biology, chemistry, drama, English, foreign languages, history, mathematics, philosophy, physics, political science, psychology, sociology, and zoology—by no means a full list of actual offerings in a given school. It may include, as well, interdisciplinary programs, professional or paraprofessional training (as in health services or business operations), and so on. However, the picture is not one of chaos.

One cannot say, for instance, that there are as many paradigms as there are courses, for courses fall into groups originating in particular disciplines. Crucial, binding assumptions may be found in the disciplines. Nor is it necessarily accurate to say that there will be as many paradigms as there are institutional units (e.g., departments). The structure of institutional units varies enormously, reflecting not only disciplinary structures but local historical forces, such as institutional traditions; availability of staffing; general trends in organization; economic influences within an institution (or, in the case of a statewide institution, within the system); and economic pressures from outside the institution. It is probably more accurate to say that there *may* be as many paradigms as there are disciplines. Such an estimate makes allowance for the possibility that some disciplines may be going in different directions at the same time—that there may be a tension between competing paradigms; that an old paradigm has disintegrated and has not been replaced; that a new one is forming but is not yet clearly visible; or that no paradigm exists at all.

The situation is further complicated by the fact that there probably is, in the strict sense, no such thing as *the* curriculum. There are, rather, a range of curricula which, for convenience, we refer to as a single thing. When one generalizes about "the" curriculum, then, one is constructing models which do not correspond exactly to any distinct entity. The same applies to the notion of "the higher education community," and similar designations, by which we acknowledge that the real thing, as it actually exists, has so many rough edges that it must be streamlined into something more manageable. In this sense the curriculum and the higher educational community—the "system," as one might say—are alike. But they are also alike in that the curriculum reflects, and even embodies the system. To get down to the specifics of the curriculum, a large question must be posed concerning the curriculum in relation to the higher education system as a whole. In view of the preceding discussion, the question is: what assumptions of the system are embodied in the curriculum—both in its substance and in the means of carrying it out in the classroom?

A close look at the curriculum in this sense—as embodiment of assumptions made by the system—discloses a paradigm consisting of at least three main assumptions: *mechanism*, or statics; *dualism*; and what might be called *knowledge-ism*. As a precaution, it should be recognized that these components have a way of shading into one another, and may therefore be thought of, not so much as a collection of things, but as a spectrum.

Mechanism is a concept with many overtones, only some of which are necessary to this discussion. In the words of Lewis Mumford, "The essential distinction between a machine and a tool lies in the degree of independence in the operation from the skill and motive power of the operator: the tool lends itself to manipulation, the machine to automatic action. . . . The difference between tools and machines lies primarily in the degree of automatism they have reached . . ."[8] The similarity here is that the curriculum tends to become, like the machine Mumford describes, a self-activating thing: once started, it keeps on going at its own clip; and the changes that occur within it amount to a sort of tinkering. Replace a part here, clean a clog or two, add a little oil from time to time—and let it run. Such are the actions that are frequently taken in the interest, not of curriculum reform, but of something that has been with us for a very long time and will probably be with us for a long time to come. It has no name, so let us give it one. Let us call it *curriculum maintenance*, on the analogy of those minor mechanical services—short of a real overhauling—which keep our educational jalopies on the road. Curriculum maintenance, then, denotes periodic check-ups, evaluations of the vehicle's present state, forecasts of the state it will be in soon, estimates of repairs, and work-sheets calling for the application of this or that tool to this or that ailing part.

According to the mechanistic assumptions in present curricular theory and practice, education happens mainly in the student's head. The pivotal notion is that of the container and the contained. This means that such and such an architectural space (a certain type of room) contains such and such a cranial space (the brain of the learner) occupied by such and such a content (the matter being taught). Once the cranium is in the room, the trick is to get the content into it. The trick is called teaching. The process is one of transport, as in the moving of goods from the warehouse to retail outlets. The problem is that such an approach cannot guarantee that the retail outlet will accept delivery.

The curriculum becomes a kind of perpetual motion machine. But let us remember that the perpetual motion machine could not be manufactured, any more than the philosopher's stone, transforming base into precious metals, could be found. After all, the purpose of such ideal constructions was not to go anywhere, *but just to keep on going*. General Eisenhower caught something of the spirit of this thinking when he observed that "Things are more like they are now than they have ever been." Its most sophisticated recent form is the concept of the steady state. On the basis of steady-state assumptions, we approach the curriculum as a peculiar combination of the organic and the mechanical. It becomes, in a word, a kind of living machine. But it may be doubtful that this is the appropriate idea of steadiness on which to carry out new curricular designs. For the stasis embodied in the mechanistic concepts under discussion is homeostasis. Roughly, this means "self-stasis," and it is no accident that such stasis is represented in various mechanisms, such as the thermostat or the self-guided missile. What we are seeing, in other words, is a version of that classical "living machine," the robot. In the robot several of the ideas we have been considering come together. The robot is capable of process: it can actually do things. But it is capable only of doing what, in a sense, it has already done, while it can carry out the assumptions which are programmed into it, it cannot operate on new assumptions. It is *the prisoner of its paradigm*. In this sense it exemplifies the idea, proposed above, of a self-activating mechanism that proceeds at its own pace; a mechanism that we tinker with, but find it very hard to change.

All of this is a way of providing further proof that paradigms really do exist, can be found, and can tell us something once we have found them. More importantly, it is, as has been suggested, a way of thawing some of the habits in which our minds are apt to become frozen. Once such a thaw begins, it is easier to see that the curriculum is no more a mechanism than is the higher education system generally. Nor is it an organism. For, while it may have elements of both, it is a human, social creation: a product of collective desires, needs and goals. And just because it is a human expression it is also a process. Though it does not change very fast, it does change—because people change it. And it changes these selfsame people, the teachers and the learners, each of whom creates an individual *curriculum vitae*, a course of life, through the process of giving or taking courses. *All of this together is curriculum*.

The two further assumptions to be discussed are so closely related to the first that they can be treated more briefly. Indeed, evidence of the second assumption, *dualism*, was revealed in our exploration of the curriculum as mechanism. This is the distinction between the container and the contained. Behind the concept of the steady state is a tacit assumption about unsteadiness, imbalance, disequilibrium, and the like. For the idea of the steady state depends upon its being *versus* some other state. The same applies to input *versus* feedback, and to any number of other dichotomies which we could easily draw out.

Perhaps the most immediately important dualism is the one that separates teaching from learning. Related to this is the separation of the learner, as a matriculated member of an academic institution, from the person, as a developing member of a community. Similar is the tendency to approach the curriculum, as well as other aspects of an institution, from the standpoint of "either-or." Even a cursory review of higher educational practice in recent years reveals a series of overcompensating adjustments or swings. The preoccupation with "trends" within the higher education system is merely a subtler reflection of the same pattern. We function in accordance with short-term scenarios which call for a full-throttle movement in one direction, then in the opposite direction.

In times of relative crisis, such as ours, the dualistic character of this way of thinking begins to show signs of strain. Old *certainties* become new *problems*. It becomes increasingly difficult to determine where school leaves off and society begins. And it is just such changes which hint at the possibility that paradigm shifts may be in process, like early tremors of earthquakes to come.

A *third* assumption of current curricular practice may be stated even more briefly because it is more familiar. This is the assumption that knowledge is basically a collection of facts, to be transferred as suggested above from the central brain of the teacher to the outlying brains of the learners. When the question of teaching and learning is considered in the next chapter, we will return to the implications this has for the "styles" in which education is caused to occur. For the moment, it will suffice to underline the fact that the higher education curriculum pays higher homage to *acquisition* than to *development*. On one side, knowledge is transmitted (the standpoint of the teacher); on the other side, knowledge is acquired (the presumed standpoint of the learner). Other educational processes, such as the development of the learner as a person, take place—if at all—apart from this one-way track. The underlying problem, in short, is that knowledge is defined as "learning what."

Neither the importance of that question nor its appropriateness can be denied. Nor can one disregard the satisfaction that the graduate is entitled to feel if she can display knowledge of significant facts. But one may fairly ask another question. One may say to the learner who has gone through the process of the curriculum: what do you know how to do? When we frame the question of educational outcomes in that form, we affirm the importance, not of learning what, but of learning *how*. Finally, we affirm the value of training for competence; the value of learning *how* to communicate, analyze, calculate, or synthesize (to mention only a few of the actions that an educated person should be able to perform). Such an emphasis does not neglect the other kind of knowledge. On the contrary, it depends upon it. The difference is that the newer concept goes on to the stage of application. To put it another way, one who holds this view of curriculum believes that the present curriculum too closely resembles the structure of self-activating, self-regulating mechanism. The only thing it doesn't do, unfortunately, is self-destruct.

Now the roots of such a mechanism go deep, and reach into familiar soils. In an early essay on "Ethical Principles Underlying Education," John Dewey, showing the influence of nineteenth-century biological paradigms, states that "Interest in the community welfare, an interest which is intellectual and practical, as well as emotional . . . is the ultimate ethical habit to which all the special habits must be related if they are to be animated by the breath of moral life."[9] Later, Dewey develops his assumption that education serves the aims of social control:

"This common understanding of the means and ends of action is the essence of social control. It is indirect, or emotional and intellectual, not direct or personal. Moreover it is intrinsic to the disposition of the person, not external and coercive. To achieve this internal control through identity of interest and understanding is the business of education."[10] On such an assumption, education becomes a kind of indoctrination and curriculum, the "program" for carrying it out. The emphasis falls on what happens "to" the learner, not on what the learner learns to do, or perhaps more importantly, on how the learner learns. The learner is supposed to be carried along in the course of the curriculum like a stick in a stream. Hence the *curriculum vitae* that takes shape within the college—a shape largely determined by the curriculum—does not reflect the life of the person being processed; it reflects the life of the process. The machinelike nature of the curriculum, as alluded to above, operates on a logic of inertia, perpetuating the static rather than activating the dynamic. The process becomes an end in itself; its motto reads: "The curriculum is more like it is now than it has ever been."

ALTERNATIVES

Is there an alternative to these assumptions? Can there be a future in which better assumptions can lead to better curriculum? The answer is that there can be such a future, though the shape of such a future will depend upon our learning to see the curriculum as a process that is subject to change, and our discovery of how to bring about change.[11] Meanwhile educators can only guess what form future assumptions or future paradigms might take, admitting that guessing may only be wishing in disguise. One wish has already been stated—namely, that knowing-what be supplemented by knowing-how, which is virtually the same as saying that knowledge as acquisition-of-facts be supplemented by understanding. If such a goal ever comes about, one result may be the replacement of mechanism by *humanism*. Should that occur, learners may look less like trainees and more like developed—and still developing—persons.

A new and better future paradigm would replace dualism with *dialectic*. Instead of a stability-oriented "thing," we would see an interactive, dynamic process, fully able to change. This new orientation would require the curriculum to be, in the words of Durward Long, Vice President for Academic Affairs of the University of Hawaii, "open-ended" and "contingency-minded." Curriculum designers would become more sensitive to the various ways in which a curriculum can become obsolete. But they would have to guard against the tendency to swing all the way to the other extreme of pursuing change for change's sake. The legacy of that old habit, embodied in the bewildering maze of curricula today, is one of the reasons for the present volume. Dialectic does *not* mean swinging between extremes. It assumes, on the contrary, that extremes merge into something better, something that does not reflect the adversarial structure of this *versus* that, but the interactive dynamic that turns opposition into synthesis.

The future paradigm one should like to see takes a different approach to scale and structure from the approach to which we have become accustomed. It would make allowance for individual differences as well as other variables, such as the fact that some learners are older than traditional ones, or can only meet in settings away from a campus, or at non-traditional times. With such a widening of the learning circle, it will be necessary to widen the circle of curricular options. It will also be necessary to adopt, for lack of a better term, a different "style." U.S. Commissioner of Education Ernest L. Boyer has called for a "reverberating circle" of contact, in lieu of the vertical structures that currently affect curricular decision making (to say nothing of other types of institutional decision making). It is a way of calling, where faculty members and administrators are concerned, for more collegiality. Even in the face of developments with adversarial aspects, such as collective bargaining, it may be possible to approach certain institutional problems, including the curriculum, in a more cooperative, more interactive manner. It appears that pressures from the outside, such as shifting student populations and slipping enrollments, are already furnishing incentives for wider circles and more reverberations.

Further, the curriculum, as large as it is, is not the institution as a whole; it is a part of the institution: we are dealing again with a matter of scale. Relatively speaking, the curriculum is graspable; and if it does not embody the principle that "small is beautiful," it does offer to every individual *some* fairly immediate point of contact. Compared with some other components of higher education, the curriculum is near-at-hand, and given the will to do so, one *can* get at it and change it.

One final reason for the static nature of the curriculum today is its sheer presence—the fact that it is already so massively there that one can hardly see it whole, let alone make it budge. In this sense, the most important thing to recognize is the very fact that courses, texts, syllabi, classroom procedures and a host of underlying assumptions already exist. To put it succinctly: *the greatest obstacle to the reform of the curriculum is the curriculum*.

GENERAL PRINCIPLES

Up to this point attention has focused on some things that educators may need to bear in mind as we view the curriculum as a whole. After looking at selected definitions of curriculum, we delved into the assumptions that underlie present curricular practice. We then glanced at the possibility of exchanging these assumptions for better ones. In what follows, the same temporal mix will be preserved, concentrating on the present as an outcome of the past while looking to the future. The discussion will treat the principles that experts believe curriculum should embody, looking at the liberal arts curriculum in particular, and thus preparing for the time when one can begin talking about the problem of designing curriculum.

The first topic, general principles that are embodied—or in the view of experts, ought to be embodied—in the curriculum is an embarrassment of riches. Even a casual survey of the literature reveals a wide variety of viewpoints; and an attempt to accommodate these within the framework of the present volume would distract us from our main purpose. A sampler will be presented, instead of a survey.

Although Alfred North Whitehead's ideas about the stages of education are well-known, they are so clear, forceful and influential that it will be worth our while to repeat them here.[12] To the initial stage of "mental growth" Whitehead gives the name "romance." "The stage of romance is the stage of first apprehension. The subject-matter has the vividness of novelty; it holds within itself unexplored connexions with possibilities half-disclosed by glimpses and half-concealed by the wealth of material." The mind at this stage experiences the "ferment" which becomes ordered in the stage of "precision." "In this stage, breadth of relationship is subordinated to exactness of formulation. It is the stage of grammar, the grammar of language and the grammar of science. It proceeds by forcing on the students' acceptance a given way of analysing the facts, bit by bit." The final stage, "generalization," is the phase of synthesis: "It is a return to romanticism with the added advantage of classified ideas and relevant technique. It is the fruition which has been the goal of the precise training. It is the final success."

The famous Harvard Committee Report, *General Education in a Free Society*, drew a more familiar distinction among the disciplines. Thus we find the humanities, in which "effective thinking" is *imaginative;* the social sciences, in which effective thinking is *relational;* and the natural sciences, in which effective thinking is *logical*. Though these phases of thinking, embodied in this three-part curriculum, aim at the development of several abilities, the phases and the abilities shade into one another. Much the same applies to two other abilities, the ability "to make relevant judgments" and the ability "to discriminate among values," in which the judgmental and the evaluative lie so close together that it is hard to tell one from another. The same cannot be said, however, of the fourth ability, the ability "to communicate thought," which is the clearest item on the list by a long measure.

Among those who have noted the inadequacies of such a view is Paul H. Hirst, who argues that the abilities in question are made to look similar when in reality they differ. "Those that under the banner of 'effective thinking' are appropriate in, say, aesthetic appreciation are, apart from certain very general considerations, inappropriate in, say, mathematical thinking. In each case the criteria are peculiar to the particular area of knowledge concerned. Similarly, for instance, 'communication' in the sciences has only certain very basic features in common with 'communication' in poetic terms."[13]

More satisfactory, in Hirst's view, are A. D. C. Peterson's "main modes of thinking," which distinguish from one another the *aesthetic*, the *moral*, the *logical*, and the *empirical*. Behind such distinctions lies the recognition that "each form of knowledge, if it is to be acquired beyond a general and superficial level, involves the development of creative imagination, judgment, thinking, communicative skills, etc., in ways that are peculiar to itself as a way of understanding experience."[14] More specific than any of the approaches so far considered is the agenda of "postulates" drawn by Lewis B. Mayhew and Patrick J. Ford.[15] Of the nine they offer, the following, for our purposes, are the most significant. The first two postulates, which are very similar, is that the learner needs, on the one hand, *structure*, and, on the other hand, *reason* or *meaning* (relevance).

The needs of the institutional system are different, though not unrelated. The system needs a *built-in process for effecting curricular change*, which is the third postulate we need to bear in mind. Fourth, curriculum should reflect the principle of *parsimony:* this means the simplest possible organization with the fewest number of courses that is feasible. The final postulate to be noted here is that *each level* of the curriculum should be *articulated with every other level*.

It is time to turn attention to the liberal arts curriculum, which remains one of the most talked-about types, both with respect to its intrinsic values and with respect to its relation to alternative curricula, especially those that are vocationally oriented. A context is furnished by Paul Dressel's classification of curriculum models[16] (see Chapter Five). The *dewy-eyed* curriculum, according to Dressel, assumes that learning is an individual matter, and is problem-oriented. The educational process, community service and other extra-curricular or co-curricular activities are deemed as valuable as academic work. Therefore the common distinction between the "liberal" and the "vocational" is not observed. Rules and status differences are similarly down-played, with students sharing responsibility for decisions that affect them.

The *pedantic* curriculum orients itself toward the traditional academic disciplines, requiring intensive study in one or two of them. The role of the academic major is crucial, with emphasis on the mastery of knowledge leading toward admission to graduate school and ultimately to a profession. In the main, the learner absorbs information from the teacher, who stresses "cognitive outcomes" as determined by examinations.

The *narrowly vocational* curriculum, as its name implies, underlines the importance of job-related skills. There is an emphasis on problem-solving and the development of competence, with relative neglect of intellectual matters.

Finally, the *saintly* curriculum operates on the assumption that truth and value are reposed in the cultural expressions that have come to us from the past, and that these can be learned by a dialectical process and by the integrative procedures employed by scholars. Intended for the intellectual elite, this type of curriculum places more emphasis on content and pure intellectual development than any of the other curricula, although in this respect it is not unlike the dewy-eyed curriculum. In short, the "saintly" curriculum is that of the liberal arts.

Since the history of the liberal arts curriculum has been frequently analyzed, we need only to point to two comparatively recent developments which have had a significant impact on curriculum. One is the introduction of the *elective system*. By playing this variation on the traditional curricular theme of a required core, the higher educational system made it possible to adapt the curriculum—somewhat—to the interests of individual learners. Without that variation we would not perhaps be talking today about such things as individualized learning or self-designed majors, nor would we be discussing "back to basics" as a countermeasure. At the same time, awarding new liberty to learners provided the very condition of curricular diversification and expansion. The principle of curricular options, once accepted, grew more powerful as teachers created and committees approved new courses, accelerating the rate of proliferation in a manner not easily reversed.

A second development of immense significance is *departmentalization*, a phenomenon that has been lurking in the shadows of this discussion almost from the start. It is important to recognize that aligning the curriculum with the department has, like the elective system, both good and bad aspects. On the good side, by bringing together persons with similar training and similar values, departments develop traditions of theory and practice which become an effective means of quality control. A department is not a congregation of all-wise and all-seeing intellects, but it *is* a grouping of persons who tend to know more about their collective enterprise than any other grouping. A department is one of the instruments through which normal educational practice is carried out, and such practice is necessary both for the maintenance of norms and for establishing, through this very process, points of departure from which breakthroughs can be achieved.

On the negative side, departmentalization, when mixed with proliferation, results in a disagreeable concoction, at least to those who would modify the curriculum. There gradually comes into view a vast landscape of vested interests reflecting past curricular decisions and tending to prohibit, just by the fact that they are already there, any really significant alterations. When the times require that alterations be made, as is the case today, the curriculum planner learns that change, that gentle pet of the past, has become a monster. Change no longer means adding; it means subtracting or giving up. And such a prospect runs head on into the department role in curriculum. The division of the institution into departments becomes actually divisive, as each vested interest grows adversarial.

However saintly the liberal arts curriculum may be in theory, it takes on a different look when viewed from the standpoint of this or that practical position. The leading question may now be asked: to what extent is the liberal arts curriculum itself practical? In its origins it is very much so. As O. B. Hardison, Jr., has pointed out, the liberal arts curriculum was invented by men with "obsessively practical" aims. "They attacked medieval culture for being impractical, and they wanted to reform society. Their educational system was to be the chief instrument for accomplishing this reform. . . . They required mastery of Greek and Latin because in the fifteenth and sixteenth centuries most of the knowledge they considered essential—especially knowledge of eloquence—was found in the classics. They wrote in Latin because Latin was an international language."[17] So practical a perspective underscores the importance of curriculum as an instrument, not merely for liberation—an idea that readily becomes an abstraction—but for concrete training:

> *The humanists stressed rhetoric because it trained people to speak effectively. Their goal was to create an intellectual elite from which the state would draw its magistrates, its governors, its juries, its parliamentarians, and its educators. Precisely because they were training an elite, the humanists emphasized the liberal arts. They included literature at every level of the curriculum not because it was enjoyable but because it could be used to teach ethical values (you learn courage from Achilles) and rhetorical skills . . .*[18]

The liberal arts curriculum continues to fulfill practical aims insofar as it introduces the learner to a range of experiences and develops life-enhancing attitudes and skills—a kind of "equipment for living," to borrow a phrase from Kenneth Burke. "Living" here denotes everyday existence of all sorts, from the vocational to the avocational, from the cognitive to the effective. As Hirst points out, different elements of the curriculum go about their business in different ways, using different sorts of ordering and moving to different rhythms. Everyday life requires a comparable versatility, as the individual thinks about a situation, experiences feelings, communicates needs, copes with dilemmas, in cycles of activity that may include interpreting a news item, solving a mathematical problem in home bookkeeping, evaluating a television program, or just enjoying a piece of music. That is why the liberal arts curriculum tries to do a variety of things, and why it necessarily draws on a variety of departments.

It may have several results. It may make one more aware of the range of human possibilities, or assist one's personal development, or, conversely, it may help to shape a sense of direction by eliminating a specific avenue of experience—a learner may decide, about a particular phase of such a general curriculum, "That's not for me." If a curriculum does any of these things, it is practical to that extent.

To appreciate this fully, the largely misleading distinction between skills and values needs to be examined. Training in any skill is carried out on the basis of certain assumptions of what, in given circumstances, the learner ought to be able to do. This applies equally to the operation of a lathe or to whole ranges of cognitive-affective skills achieved by exercising the mind and the senses. The assumptions made by a curriculum planner, by a teacher in classroom or in an off-campus setting, or by a committee deciding on curricular requirements—all such assumptions are rooted in values, and are in fact *acted-out values;* or if you prefer, all training in skills is *training in values*. The practical advantage of the liberal arts curriculum is, minimally, that it creates the opportunity for more than one type of training. At its best, it helps learners become more versatile and flexible: attributes that prevent the individual from becoming "overwhelmed" by reality, as C. Wright Mills liked to say. In an epoch in which an individual can expect to be employed at different jobs during the course of the years, there is an advantage to having had different types of experience. It does not follow that the liberal arts curriculum in itself guarantees that genuine learning experiences of different types occur. But it is one of the few means at our disposal for providing a basis for such experiences. In this sense, defenders of the liberal arts curriculum make a case not dissimilar to the case that is made by the ecologically minded. It is basically a case for the "quality of life," involving the maximum use of resources—including, in this case, the full range of cognitive and effective potential of the whole person.

In sum, the distinction between a curriculum that trains and one that does not train is extremely dubious. Persons who experience the curriculum of the liberal arts are trained to be receptive to certain values and procedures, which means implicitly rejecting others, which means making a decision on how to act and how to be. All of this contributes to the formation of the person who selects this or that vocation, in the case of learners in the traditional age-group beginning with the eighteenth year, or of the person who has already made a vocational selection (or more than one), in the case of the lifelong learner. Patently vocational training—Dressel's "narrowly vocational" curriculum—does something similar: it sets a value on certain types of action leading toward certain goals. Inevitably liberal training and vocational training have different specific goals, but they are both training. The difference between the two types of curriculum is not a chasm, but the difference between points on a continuum.

NOTES

[1] P. W. Musgrave, *The Sociology of Education*, 2nd ed. (London: Methuen, 1972), pp. 183ff. For reasons of space, citations to a title will appear for the first reference, with further notes only for lengthy or unusually important quotations from the same source.

[2] *The Structure of Scientific Revolutions*, 2nd ed. (Chicago and London: Univ. of Chicago, 1970). This study first appeared in 1962 as Volume 2, Number 2, of the International Encyclopedia of Unified Science.

For the purposes of this discussion, it is not necessary to consider in detail Kuhn's theory of critical developments in science. Nor need we be delayed by the reservations he has expressed about the uses to which his theories are increasingly put. His study has entered the eminent domain of contemporary educational theory and practice. And within that domain, the existing norms permit considerable license regarding the "ownership" of ideas, concepts, theories, and methodologies. These are typically translated into something simpler, something more workable, than their creators originally had in mind. They become, in a sense, slogans—fragments of the original which nonetheless carry with them a trace of the original's power. And the contribution of such traces cannot be slighted. Studying education from antiquity through the Renaissance and the Enlightenment to the present, one learns that such "tracing" has frequently left a deeper imprint on curricular practice than the more careful, more detailed planning of specialists.

[3] *The Structure of Scientific Revolutions*, p. 23.

[4] *The Structure of Scientific Revolutions*, p. 85.

[5] Lucien Febvre, *A New Kind of History and Other Essays*, ed. Peter Burke, trans. K. Folca (New York, 1973).

[6] Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, trans. Sian Reynolds (New York: Harper & Row, 1972), 2 vols.; *Capitalism and Material Life, 1400-1800*, trans. Miriam Kochan (New York: Harper & Row, 1973).

[7] *Time on the Cross*, p. 4.

[8] *Technics and Civilization* (1934) (New York: Harcourt, Brace & Jovanovich, 1963), p. 10.

[9] John Dewey, *The Early Works* (Carbondale: Southern Illinois, 1967-72), Vol. 63.

[10] *Democracy and Education* (1934) (New York: Macmillan, 1963), p. 39.

[11] D. K. Wheeler, *Curriculum Process* (London: London Univ., 1967), esp. chapters two and three.

[12] *The Aims of Education and Other Essays* (New York: Macmillan, 1929), pp. 27-30.

[13] *Knowledge and the Curriculum: A Collection of Philosophical Papers* (London and Boston: Routledge & Kegan Paul, 1974), p. 36.

[14] *Knowledge and the Curriculum*, p. 39.

[15] *Changing the Curriculum* (San Francisco: Jossey-Bass, 1971), pp. 166-69.

[16] Paul L. Dressel, *College and University Curriculum* (Berkeley: McCutchan, 1968), pp. 214-17. I have changed the order in which the classifications are presented.

[17] *Toward Freedom and Dignity* (Baltimore: Johns Hopkins, 1972), p. 89.

[18] *Toward Freedom and Dignity*, p. 90.

CHAPTER 4

Designing Curriculum

Of what components should a curriculum consist? Once this question has been addressed, the difference between disciplinary and interdisciplinary approaches to the curriculum will be discussed, along with related considerations, such as the role of the curriculum in regard to teaching and learning; to extracurricular or co-curricular activities; and to the clock and the calendar. When these matters have been treated, attention will shift to the problem of defining curricular models and determining the bases for curricular decision making.

If one agrees that curriculum ought to be related to everyday life in a broad sense, as suggested in the previous chapter, then it is necessary to forge links between that life and actual curricular components. Some such links are indicated by Solon T. Kimball and James E. McClellan, Jr., who argue that "the highest level of research and instruction in our society . . . is but a refinement and specialized application of the more fundamental disciplines of thought and action inherent in the very structure of our social order. These more fundamental disciplines, we believe, can be analyzed and taught directly, allowing their specialized uses to come in due course in a citizen's life."[1] It should be noted that "disciplines," employed here, are not to be confused with disciplines as defined by the organizational structure of institutions. Rather, they are modes of experience along the lines of the typical daily activities described near the end of the preceding section.

In the very structure of our social order we find people exercising the modes of *calculation and logical argument or analysis*, which Kimball and McClellan call "The formal disciplines of logic and mathematics: These are called 'formal' in a special sense, i.e., because the form of argument determines whether or not the argument is to be accepted." Recently, this mode has come to be called "numeracy."

In the mode or "discipline of experimentation," emphasis falls on *design*.

> *It is not too much to say that experiment has become a style of life, a way of looking at the world: in principle, every phenomenon that man encounters can be analyzed into a set of causal factors and the force of each factor measured. If the results of experiment can be organized into logico-mathematical theories, so much the better, but experiment does not wait on theory. From the simplest home garden plot to vast state farms, from the tinkering of a shop mechanic to the organized industrial laboratory, from the schoolboy's chemistry set to Du Pont to Cape Canaveral—experiment never ceases.*
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> *It is in design that the heart of the discipline is to be found, whether the experiment concerns the physical, biological, social, or personal aspects of the world.*[2]

The concept of design includes the preliminary definition of a problem or a goal, the shaping of a plan to solve the problem or attain the goal, and the implementation of the plan. The emergence of design as a conscious, structured activity is a comparatively recent phenomenon. In his *Conceptual Blockbusting: A Guide to Better Ideas* (San Francisco: Freeman, 1974), James L. Adams provides readers with exercises for developing their capacity for design; but the basic phenomenon, carried out spontaneously, has been a feature of American life for many years. The chapter you are now reading reflects the same pattern by placing design and related factors at the center of attention.

A third discipline, "natural history," is concerned with *the relation of organisms to their environment*. Here the focus "is on the complex, in which one system maintains its organization as a system by responding both to its own internal dynamics and to its changing relations to larger systems of which it is a part." One practical example of this mode is the ecological movement, reflecting a concern with interdependency both as a function of natural life systems and of social-economic systems. Another is the rise of general-systems theory, which attempts to explain how any organized structure is put together, how it maintains itself in the face of pressures, and how it can be controlled or "managed." The recent trend toward higher education managerial concepts reflects this pattern on the central-administrative level (often drawing upon the formal discipline of logic and mathematics).

Finally, there is the discipline of "esthetic form," springing from sheer confrontation of esthetic objects. But it also consists in construction, which is the capacity to imagine new possibilities and to carry them out. While artists are notable for this capacity, it can be developed to a degree in everyone, and accounts for the long curricular life of art appreciation, music appreciation, and the like. Another manifestation of this mode is criticism—which supplements confrontation and construction: "Art consists of objects constructed from the possibilities and limited by brute facts of certain materials, certain functions, and certain historical traditions. Until one can criticize in this temper, he has no idea what he likes or does not like." Criticism, in other words, clarifies the bases on which an esthetic form is executed, described or judged.

Philip Phenix's analysis of the types of meaning that should make up general education, in *Realms of Meaning* (New York: McGraw-Hill, 1964), brings us a little closer to the problem of actual curriculum design. Phenix distinguished six realms of meaning which he calls *symbolics, empirics, esthetics, synnoetics, ethics* and *synoptics*. Although he also distinguishes generic classes according to types of meaning, our purpose is to see how the designated realms of meaning translate into disciplines in the curriculum. The first realm, symbolics, translates into mathematics and nondiscursive symbolic forms, as well as into the ordinary language of everyday life. The second realm, empirics, combines elements of the "fundamental disciplines" of logic and mathematics, natural history, and even experimentation, as described by Kimball and McClellan. In his third realm of meaning, Phenix turns up a good match with the other writers; for "esthetics," as Phenix calls it, is directly related to the curricular components of the visual and kinetic arts (e.g., painting, dancing and music) and literature. Some crossing over occurs in the realm of synnoetics, which covers philosophy, psychology, and certain aspects of religion, as well as literature. This is evident because these fields represent more of a fusing activity (as indicated by the prefix *syn*) than, for example, mathematics. The two final realms, ethics and synoptics, are translated respectively into history and disciplines or subdisciplines dealing with value areas, such as morality, and, inevitably, the field of formal ethics itself; and into religion and philosophy, which are "synoptic" in that they construct supposedly unified views of the world.

Analyses of this type fall between the general and the particular—a high-altitude taxonomy at one extreme and a collection of actual fields or disciplines at the other. At some points the transition from the former to the latter is evident, as in the case of esthetics; but at other times, as we have seen, it does not bring us, in the end, much closer to the actual curriculum than the analysis of fundamental disciplines. This is partly because, as Hirst points out, such an approach does not stipulate the objectives to be carried out in a curriculum.

Before considering a curricular proposal that avoids this pitfall, it may be useful to consider some of the "axioms" put forward by W. Kenneth Richmond in *The School Curriculum*.[3] Not all of these axioms can concern us in the present section; for example, the first axiom, *Management of conflict is pre-condition for securing cooperation*, as Richmond spells it out, bears directly upon larger social questions and upon implementation, the issues treated in Part I and IV of the present volume. The same applies to the axiom that *Curriculum planning needs to be carried out as a combined operation* involving producers of media materials, parent groups, equipment manufacturers, and publishers. This related to a point made in Chapter Three concerning the importance of the sheer *presence* of the curriculum as it now stands. Such an axiom reminds us that this presence comes about through the combination of things "supplied" by the culture, whether in the form of books, teaching aids, the construction of learning spaces, or the stream of opinions, resistances and judgments channeled into it by opinion makers or by those who merely follow opinion.

An axiom with more immediate value is the following: "In curriculum planning it has to be borne in mind that the emphasis is gradually shifting from the teacher as instructor to the teacher as manager of learning situations." As Richmond goes on to observe, "The trend exemplified in programmed learning is symptomatic of a much wider trend which makes it possible to envisage the emergence of the school as a resources-for-learning center. The implications as regards school organization, methods of teaching and teacher-training are far reaching, not least in raising doubts about the existing compartmentation of the curriculum into 'subjects.'" One might define such a role as *facilitating*. As a facilitator the teacher spends less time leading the class in lockstep and more time coordinating. The processes to be coordinated might be individually paced learning modules (allowing individuals to advance at their own rate), combined with normal whole-class approaches to aspects of the curriculum (e.g., the periodic review of major features of a topic), or with small-group discussions, peer-tutoring, and so on.

Another useful axiom, obvious but worth reinforcing, is that "Continuous assessment and evaluation must be built into curriculum planning to ensure that it is self-correcting. . . . At all stages, regular feedback of information, criticism and counter-suggestions from those trying out experimental courses to those responsible for initiating them is indispensable. At all costs the arrogance of supposing that any one party has the final solution can be avoided. Only in this way can decision-making be effectively shared and off-course drift prevented."

Richmond's final axiom has already been anticipated: *Curriculum planning, like education itself, is a continuous process*. Again, the generalization may be obvious. But if it is so obvious, why is it so frequently disregarded? For there can be little doubt that institutions work on the curriculum in spurts, often in response to an external stimulus such as Sputnik. Once a new design has been achieved, the process of studying and evaluating the curriculum is largely suspended until the next crisis where, in one of those extreme swings already mentioned, practically everything is called once more into question.

> *Whether, in the absence of a creditable curriculum theory, and without an all-out concerted effort, innovation can be regulated on the scale that is required remains questionable . . . The unresolved paradox is that, although the need to work fast is imperative, curriculum development is inevitably a slow business. To save time, and avoid*

> *duplication of effort and the waste of limited resources, nothing less than a confederate plan of campaign is required. The alternative is to fall back on a Micawberish approach which is as effete as it is ineffectual. Instead of bemusing ourselves by discussing the pros and cons of 'progressive' and 'traditional' methods, it would be more realistic to acknowledge that the opposite of progressive is unprogressive, the opposite of systematic is unsystematic, and that organisms which fail to adapt themselves to a changing environment doom themselves to extinction.*[4]

The argument for curriculum-planning-as-process connects with the even more fundamental argument that curriculum *per se* is a process—a point which takes us back to one of the first observations in the present chapter. We have now arrived at the point of asking what it is that all this process actually produces. One answer is that it produces graduates, which can either mean survivors or persons who have really learned something. Another, more daring answer is that it produces *reality*. As Musgrave has shown, "in complex societies there must evolve social positions which carry the power to decide what shall be seen as normal knowledge and normal behavior. In both cases, but perhaps more clearly in the latter, those who fill these positions have 'the power to *produce* reality.' They manage the social pool of knowledge, determining how much and which specific knowledge shall be available to various categories of persons in that society."[5] On the same reasoning, Kuhn brings out the importance of "normal science" as an agreement among practitioners as to the definition of problems of research and the means of solving those problems—in other words, for practical purposes, of reality itself. As a result, history of science becomes less preoccupied with the striking ideas of the individual genius, and more sensitive to the power of received knowledge and received wisdom, as embodied in the curriculum. History of science becomes the history of *scientists*, providing further evidence of the type of paradigm shift outlined in Chapter Three.

PROPOSAL FOR A COMPETENCE-BASED CURRICULUM

The proposal previously referred to was designed by Bob Knott and the faculty at Mars Hill College (see Appendix B). It calls for a competence-based curriculum in the liberal arts, starting from the following set of premises: "If a liberal arts college is to cultivate the liberation of its students by developing in them an informed, disciplined intelligence marked by the ability to 1) formulate and examine purposes, 2) design and act upon means of executing those purposes, and 3) assess the consequences of such actions, then the curriculum design should incorporate at least four basic components."[6] These are an epistemological structure; a structure for promoting student mastery of advanced skills or expertise in at least one special area; a developmental scheme . . . for effectively assisting student maturation; and a set of institutional values which the college deems important but finds inadvisable to impose directly on students through competence assessment.

Only the first component will be discussed here because it is the one in which the realms-of-meaning approach is directly put to use (the other three premises are briefly discussed by Bergquist in Part III). Instead of adopting the original classification, the Mars Hill faculty reformulates it for curricular-design purposes into "symbolic communication, empirics, aesthetics, personal knowledge, ethics, and synoptic knowledge."

According to the competence of *symbolic communication*, the learner should be able to assimilate and express ideas both in verbal and mathematical form. "Given selected problems, the student is able to analyze them critically and is aware of the skills employed in creative approaches to the problem. The student is able to communicate effectively in groups and gives attention to both verbal and nonverbal forms of group communication."

In the second competence, defined as science (Phenix's "empirics"), the learner should understand the basics of scientific inquiry. More specifically, the learner should demonstrate understanding of "empirical data, causation, correlation, description, explanation, natural law or principles of order, elements of theory construction (assumptions, theories, hypotheses, facts), and the evolution of scientific thought." Just as important is the learner's ability to judge the claim that science is "objective" or "value-free," and to relate the understanding that has been acquired to social and material problems, such as those of the environment.

The learner meets the third competence, *esthetics*, by demonstrating understanding of esthetic perception, by appreciating creative aspects of his or her own experience, and by connecting these with comparable experiences in other cultures. More specifically, this means the learner "has engaged in some sustained artistic activity"—the closest we have come so far to a concrete curricular requirement. At the same time, the person with esthetic competence develops a sufficient theoretical basis for analyzing and judging the artistic works of others, and demonstrates the same type of understanding in at least one other culture, which can be different either in time or place (or presumably in both). The learner meets the fourth competence, *personal knowledge*, by demonstrating an understanding of his or her own personal development, as well as *the modes of human development in general*.

Competence in *ethics*, the fifth realm, comes about through understanding of the values of the learner's own culture and one other culture, with attention to social, economic and political organization and practices, as well as practices and beliefs in religion, education and other spheres. In this realm it becomes important to understand the basis on which the learner's own values have been formed, and to consider the possible effects of historical developments on the future of culture in general.

Finally, the competence of *synoptic knowledge* requires that the learner understands the manner in which people try to construct unified world views in the context of broad historical, philosophical and religious developments. The learner is able, for example, to "describe the sources, development and impact on his own time of a designated number of movements in modern civilizations such as nationalism, imperialism, democracy, the concept of balance of power, communism and trade unionism." To this end the learner can cope with at least three major theories of history as well as selected contemporary theories of knowledge.

Attention to these considerations, Knott concludes, "must give rise to specifications of observable behaviors." When this occurs and when "appropriate assessment procedures emphasizing their integration are designed, the goal of liberal education to develop a student's disciplined intelligence will have been formulated in terms of assessable competence at a specified level of maturity. The result will be a competence-based curriculum in liberal education."

From this fairly specific scheme for one type curriculum we may turn to the question of interdisciplinary activities as an aspect of curriculum development.

DISCIPLINARY AND INTERDISCIPLINARY

The academic disciplines clearly hold center stage in the curriculum, as they have done for some time. But it is doubtful that much serious curricular improvement will occur unless they learn to make room for educational endeavors that do not fit neatly into disciplinary categories, or into the departments in which they are typically embodied.

To state the situation in this way is to imply that interdisciplinary approaches provide a way of sharpening the curriculum's cutting edge. And in this section that is basically the argument I will try to make. But let us try to keep the situation in perspective. Let us not imagine that the typical American college will cure all its curricular ills by playing up the interdisciplinary to the disadvantage of the disciplinary. Such reasoning merely swings the pendulum to one extreme, increasing the likelihood that it will one day swing right back. Disciplines and departments, for all their faults, remain crucial leverage points in institutions, and they acquire their leverage because they provide significant structures of continuity. A department is a little like an old saying: it is a thing that sometimes loses its freshness, but which has survived because it keeps alive something that is worth preserving.

The negative side of all this should be obvious. Traditions get mixed up with interests, territorial claims, defensiveness and drives for power. Because this happens, the disciplinary or departmental mode of conduct must itself be subjected to quality control in various ways. Within the institution, this typically occurs at the next highest organizational level (e.g., a division, a school, a college, or a committee). When we look at the average curriculum we see the history of the trade-offs that have been made between those levels.

Recently, there has been some tentative movement toward covergence between, on the one hand, the disciplines and their departmental embodiments, and on the other, the competence aspect of curriculum (witness the Mars Hill example already discussed). One cause is the renewal of interest in general education, as a way of developing breadth and flexibility in a rapidly changing world, of getting "back to basics," and of putting some liberal-arts punch back into a curriculum that has become a disconnected series of tracks, like a railway network with no roundhouses and no Grand Central Station. Thus Henry Rosovsky, Dean of the Harvard Faculty of Arts and Sciences, states that college learners should have "informed acquaintance" in:

1. Mathematical and experimental methods of the natural sciences.
2 Analytic methods and the historical and quantitative techniques of the social sciences.
3. Literary, scholarly and artistic achievements.
4. Religious and philosophical conceptions.

So far this agenda parallels the "phases of effective thinking" in *General Education in a Free Society*, except that the "imaginative " phase, identified in that document with the humanities, has turned into two areas (3 and 4). But the concept of informed acquaintance shades into something else when Rosovsky further states that the learner, on becoming acquainted with the four areas, should:

1. Be able to communicate with precision, cogency and force.
2. Have achieved some depth in some field of knowledge.
3. Have a critical appreciation of the ways in which we gain knowledge and understanding of the universe, of society and of ourselves.[7]

What emerges here, in other words, is a concept both of a core curriculum *and* of a competence curriculum. Whether those concepts will be further sharpened, more closely linked and implemented obviously remains to be seen.

There are doubtless those who would deny that the idea of a core curriculum matters very much. But, as in the case of the disciplinary versus the interdisciplinary, we need to keep a sense of balance. The core curriculum should not be dismissed any more than the department should be. We should recognize the *dialectical* nature of the relationship that exists between those aspects of curricular practice that are relatively fixed—such as the department (and allied institutional units)—and those that are relatively fluid—such as alternative curricular or teaching-and-learning approaches.

To this end let us dwell a moment on the idea of the core curriculum. In the first place, that idea is itself a relative thing. Although it has a reputation for being very definite, it is actually a kind of dynamic equilibrium consisting of habitual features and changing ones: "core" is not "hard core." In the second place, a core is basically a nucleus among nuclei; these other nuclei are more specialized curricula, forming a totality that is not unlike a spider's web which starts from a center, but ultimately consists in the relations between every line in the network. In the third place, a review of recent catalogues reveals, in one important respect, that "the more it changes, the more it remains the same." The curriculum continues to be distributed along the axis of the disciplines or the axis of the disciplinary clusters: humanities, social sciences, and the natural sciences. These are approximate organizations with some variations, particularly in designations. Thus one curriculum sorts the humanities into arts and letters, and the sciences into social sciences or just plain "sciences." One curriculum puts history in the social sciences, another puts it in the humanities, while still another defines different types of history as belonging in different places (e.g., history in general may fall within the humanities, while history of science falls within the sciences or the social sciences).

The implicit notion behind such curricular distribution is the notion of a gathering place or region. Putting aside complex theoretical questions which cannot be examined here, we may note that a region is essentially a structuring concept determined by agreement among the members of a community. The region comes to be regarded as, in a broad sense, "normal," while other regions are defined by their degree of deviation. When something new comes along the community rates it on a scale of difference. Should the new thing be regarded as not being all *that* different, it may be incorporated into the region, either adding to its spread or replacing something. Or it may be rejected as being *too* different and as belonging therefore to some other region. When neither happens, a new region may emerge. Thus, interdisciplinary study is beginning to constitute a new region in this sense. Indeed, there are some curricula (e.g., in biochemistry and technical fields such as transportation) which represent interdisciplinarity at an already consolidated stage. At the other end of the spectrum, classics in principle involves interdisciplinary inquiry, stretching all the way from the study of Greek and Latin to the study of Roman law, the inscriptions on ancient monuments, numismatics, drama and philosophy, in various mixes. On the broad front of the liberal arts curriculum, however, interdisciplinary approaches remain more the exception than the rule.

It remains to be seen whether the emergence of such a new region amounts to a significant change. Certainly it is premature to speak of a curricular "revolution." It is more likely that this emerging region will mainly take the pressure off other regions, enabling them to modify themselves, and contributing to the working-out of better regional configurations, which means better curricula.

The concept of the interdisciplinary covers a wide range, as employed here. Erich Jantsch sees no less than five ways of advancing beyond disciplinarity."[8] The *multidisciplinary* approach denotes the mere existence of all disciplines side by side. The *pluridisciplinary* approach denotes situations in which the disciplines cooperate but are not coordinated. (Most practitioners would call this a "multi" approach, but the point remains the same.) According to a third approach, called *crossdisciplinary*, the disciplines are connected by a concept oriented toward some originating discipline (e.g [illegible] "life study" courses drawing on different departmental resources but ultimate[illegible] bound together by the discipline of biology.) The truly *interdisciplinary* stage arrives when coordination occurs on a higher level, supported by a genuinely integrating concept (such as the concept of "interpretation" discussed later). In a more utopian vein, Jantsch sees, at the top of the hierarchy, a *transdisciplinary* effort coordinating all levels of educational practice and innovation that together constitute the total systems.

IMPLICATIONS OF INTERDISCIPLINARY APPROACHES

As employed in this chapter, the term "interdisciplinary" embraces the two middle concepts of the crossdisciplinary and the interdisciplinary (in Jantsch's specific sense). It covers therefore a wide range of possible implications, from designing a curriculum around a coordinating idea to designing a curriculum around an idea that is genuinely integrative. In one of its common and useful forms, interdisciplinary simply means that two or more disciplines are brought into somewhat closer relation than is normally the case. One teacher can do this alone, through individual preparation or by drawing upon the competence of colleagues. The curricular result may not differ materially from the result achieved when two or more teachers from different disciplines work together. The involvement of more than one person in curriculum design or practice—team-planning or team-teaching—can lead to a division of assignments, with one member of a team designing one part of the curriculum relating most closely to his discipline of origin, and the other member taking charge of the other part. This sometimes continues right into the classroom, where the teacher who planned one phase of the curriculum is responsible for teaching that part and just that part. Conversely, the two teachers may trade off, either at the stage of planning or the stage of teaching or at both—an approach that is likely to do more for their own development than following a strict division of labor along disciplinary lines.

Much depends on the sequential strategy of the teachers' presentation. One common approach is for the teachers to rotate, each taking charge for a session, or a week, or some other temporal unit. This approach minimizes risk from the teacher's point of view, but may be less provocative from the learner's point of view, and even confusing. A ready alternative is simultaneous performance throughout. In this model, the team members work jointly on the curriculum in both the planning and performance phases, both members are present at all times in the particular setting (conventional classroom, off-campus study center, and in the field). Within such a structure, we find a further subset of variables when the curriculum is carried out in a discussion format. The responsibility for given sessions may shift back and forth between teachers, one guiding the discussion and the other refocusing toward the end. Or the teachers may interact more continuously in a dialogue (though pure dialogue turns the members of the class into mere listeners, and this is to be avoided). Better still is a triangulation in which the teachers interact with each other *and* with the class as a whole.

The format to be selected depends upon the interaction of several forces: the curricular objectives to be achieved; the training of those designing and carrying out the curriculum; the type of learner who is being addressed; the paradigms of the disciplines being brought together; the paradigm underlying the innovation in question; and finally, the organizing structure to be adopted. Not all of these are of equal importance, nor are they equally accessible. It may be very difficult, even impossible, to bring the second type of paradigm—the one underlying the particular innovation—to the surface. This is because innovations sometimes need to be extensively practiced before they can be brought to theoretical clarity. More precisely stated: theoretical clarity may develop *as the practice develops*, in a *dialectical process* related to the circularity of process to be considered below in the section on curriculum models.

On the other hand, the problem or theme—what it is that an interdisciplinary curricular innovation focuses on—is easier to extract. In fact, extracting it is a precondition for designing the innovation in the first place. The definition of the theme depends in turn on the definition of the objectives, and these can vary so much that it is hard to generalize about them without becoming superficial. But characteristically, such innovation reflects an agreement, among a few like-minded persons, that one can achieve a better fit between the curriculum and real-life actualities or possibilities. The most obvious example of this is the development of ecologically oriented curricula in response to a rising awareness of the interrelatedness of the biosphere and of the challenge to improve the "quality of life."

Whatever focus is adopted, the curriculum designer needs a structure which, in light of the disciplines being brought together, can arrive at its objective in the most effective way. Such a generalization is less trivial than if we bear in mind that interdisciplinary innovations in the curriculum are complicated operations which have a better chance of success if the designer makes every possible effort to "keep it simple" and "keep it clear." Nowhere is this more true than in the definition of the organizing structure, which influences the components of design, sequence and pace. It largely determines, furthermore, the "image" of the curricular product when it comes to the attention of learners. For it is all-important for them to know what this new thing is about.

WAYS OF STRUCTURING

Several possible ways of structuring such an innovative offering may be mentioned, without any pretense of being exhaustive, or of providing categories that will necessarily serve every disciplinary interest (for every discipline is in some sense its own language and translates everything into that language).

One common structure is that of the problem area or, for brevity, the *problem*. Many aspects of a curriculum may be problem-oriented in some sense. But where innovation is concerned, the problem to be treated lies somewhere between or beyond existing lines of inquiry. Because problem-orientation is such an obvious, flexible, and often-used means of interdisciplinary innovation, the largest portion of this section is devoted to it (see the discussion in Chapter Six on thematic-base curricula).

The University of Wisconsin at Green Bay (see Appendix A) has taken a comprehensive approach to the problem of ecology, organizing its curriculum and its institutional units around environmental themes. Thus the university consists of the Colleges of Community Sciences, Creative Communication, Environmental Sciences, and Human Biology. Every student concentrates on an environmental theme that may transcend not only departmental boundaries but the boundaries of the four colleges. The student may also elect a secondary concentration called a collateral, or a preprofessional program. Such a dichotomy recalls the more familiar distinction between major and minor, just as the colleges themselves preserve traces of more familiar institutional units. The College of Community Sciences, with its emphasis upon the social environment, is reminiscent of units built around the social sciences. On the other hand, the College of Creative Communication, with its orientation toward values and aesthetics, points back to institutional units built around the humanities and arts. Similarly, the College of Environmental Sciences and the College of Human Biology preserve traces of the physical sciences and the life sciences, respectively. But to point to analogies is not to say that these units and their curricula are identical with more familiar units and curricula. While the College of Environmental Sciences, for example, focuses on physical and chemical phenomena, the curriculum is oriented toward a specific problem, namely, ecosystems; this shifts the curricular center of gravity toward "life" questions—e.g., the way chemical factors in the environment relate to organisms. That shift is institutionalized in the fourth college, which offers a curriculum similar to those housed elsewhere within traditional curricula or organizations, but more practically oriented. Emphasizing the relationship between the environment and human beings, the curriculum is loaded with practical problems—inadequate food supplies, population, uncontrolled population growth, and so on. (The four concentrations in the College are Growth and Development, Human Adaptability, Nutritional Sciences, and Population Dynamics).

Given such an orientation, it is not surprising that the school works more harmoniously with the surrounding community than is normally the case. When nearby Lake Noquebay, a tourist attraction accounting for most of the county's income, showed signs of "premature aging," members of the university began "trying to find out what causes the lake's troubles, and how to cure them. The undertaking combines scholarly research, teaching, and cooperation with the people of Marinette County to rescue their economy, all at the same time. It also demands a multidisciplinary effort—the joint work of scholars in several fields—which is one of the distinguishing characteristics of the Green Bay experiment."[9]

Alongside this diversity, the university offers a core curriculum through Liberal Education Seminars. Entering students choose from a series of seven-week modules in human values and technology, communications problems, resources utilization or the American character. The following two years, the students become more aware of other cultures and more involved in the community through a project designed, for the most part, by the student. In a three-credit seminar in the senior year, students choose a broad topic (such as culture, community and environment in the United States), in an effort to integrate previously acquired knowledge and experience and to apply the concepts they have learned to concrete realities. The curriculum requires 18 LES credits of its students. Thus, although the institution builds its total curriculum around themes deriving from one big problem it attempts, through requirements, to prevent students from settling too quickly into narrow habits of thinking or acting.

The College of the Atlantic in Maine also focuses on environmental problems, but with emphasis on human ecology (see Appendix B). The College organizes its curriculum into Social and Environmental Design, Human Studies, Environmental Sciences, Independent Study, Workshops and Internships. Some aspects of the first of these divisions deserve special mention, both because of its intrinsic interest and because it provides interesting comparisons with some elements of the UCGW curriculum. One can get a feel for the Social and Environmental Design curriculum, which is not identical from year to year, by noting three illustrative courses offered in 1975-76. The course in *Maine Culture* concentrated on the fishing industry, employing anthropological concepts. In their field work, learners conducted interviews on the retail marketing of seafood in one section of the state, writing a paper on their experience. A second offering, *True, Plumb and Level*, required students to spend one full day a week on the construction of a 1,000-square foot student workshop. Readings covered carpentry skills, building design and techniques, and the nature of wood. When the project was completed, the instructor evaluated students on interest and involvement, mastery of woodworking skills, and performance in an exam. In *Modern Architecture and Environmental Design*, members of the class read Jane Jacobs' *The Life and Death of the Great American City*, Frank Lloyd Wright's *Buildings and Writings*, and Le Corbusier's *The City of Tomorrow* to gain a background in modern architecture in relation to nature, design principles, the origin of modular architecture, and concepts of the city as an ideal form and as an organic process. Students then advanced through the interdisciplinary approaches worked out by, among others, Paolo Soleri, creator of the "arcology" approach to ecologically efficient architecture, and Buckminster Fuller, futurist and inventor of the geodesic dome.

The College of Atlantic approach could hardly be exported in its totality to any other institution. But virtually every institution has some environment which it can more successfully relate to through innovative offerings. Several years ago the University of Texas at Arlington devised an experimental course in environmental awareness, followed one year later by a continuation project. A learning group typically contained twenty members between the ages of 18 and 35 from five social classes or ethnic cultures. The purpose was to awaken a concern for quality of life as embodied in the "manmade" environment. The curriculum called for classroom work and out-of-class activities which resulted in experiences with classroom applications. The techniques included the following. In "spatial history," participants discussed places, from present or past experience, that had a notable impact upon them. They later created personal spaces for themselves, using cardboard, tape, staple guns, metal straight-edges, matte knives, pencils and butcher paper. The aim was to help the participants discover the components of environmental design (pattern, texture, movement) and their effect on human needs—all on a small scale.

FURTHER WAYS OF STRUCTURING

Other equally valid ways of structuring an interdisciplinary innovation include focusing on: *figures, emerging fields, interpretation, discovery*, and the *future*.

Organization around a *figure* provides a ready means of drawing disciplines toward one another. If the curricular objectives call for an understanding evolution in relation to religious institutions and beliefs, Charles Darwin would be an appropriate figure. The focus might be the "image" of Darwin (and even, if one likes, the image of the scientist, *per se*). An offering designed to explore the "interface" between science and the humanities would strive to do justice to both of these dimensions. The design would increase its bite by relating such a figure to a figure having strong ties with an institution. One choice might be William Jennings Bryan. The pairing of Darwin and Bryan as contrasting figures might generate a curricular component on the confrontation between the two during the Scopes trial.

A second type of structure is that of the *emerging field*. One advantage of this type is that the field that is emerging is itself a response to phenomena that have remained inaccessible to conventional approaches. Consequently, the curriculum or course designer has the advantage of a built-in rationale, lessening the need for improvisation. Such an emerging field is that of "ekistics," or the study of human settlements. Some of its possibilities are suggested by *Studies in Greece: Rural Towns and Villages*, a recent offering at Evergreen State University (an institution organized without departments and without a set curriculum: see Appendix B). "We form buildings and our buildings form us. The form of a town both responds to the site it occupies and it alters that site . . . Settlements studied will be remote and relatively static and can be viewed as having reached a sort of 'equilibrium.' The aspects examined will fall within the generic categories of Man, Nature, and Society. Networks, shells and the physical forms of settlements, will be seen simultaneously as resultants of those aspects and as 'determinants' in a supportive sense." Although the course includes on-campus preparations and on-site study in Greece, the latter feature, though attractive, is by no means necessary. Any settlement can serve as a site; and it is hard to imagine a college that cannot claim *some* interesting sites close by. Indeed, the college itself—as both a physical and a social place—could be such a site.

Through the *discovery* approach, innovations can occur within established fields. Here the goal is not to gain access to new or neglected problems, nor to ride the crest of an emerging field. The goal is to design experiences that result in an already agreed upon type of learning, but in more involving ways. We know that an anthropology curriculum desires, among other things, to give learners a feel for other cultures. Now a curriculum designer can build in an appropriate experience when an institution is located near an archeological site—one containing American Indian artifacts, for example. Such a resource would be analogous to the field trip to Greece in the ekistics course described above. But a genuine "hands-on" experience can be devised when such resources are lacking. A large unit of a course (or an entire course in a series) can be structured in the following way. The class divides in two, one half studying the beliefs, habits, daily practices and material artifacts of a particular culture, the other half doing the same with another culture. The two halves, working separately, select representative artifacts and build replicas of them. Such a process gives the members of the class a sense of the "concrete operations" performed by the culture in question; it is a distinct hands-on activity. Each student group then creates an archeological site, burying the artifacts so as to approximate the situation in which they might be encountered in an actual site. Each group then conducts an expedition to the other group's site, unearthing the objects, classifying and analyzing them. The instructor plays the role of facilitator, relating the expertise acquired by each group to the inquiries of the other group. Such a design not only permits peer-supported learning, but requires it.

A third approach, keyed to the liberal arts curriculum, organizes itself around sign systems, and may be called *interpretation*. This approach takes account of the fact that the liberal arts tradition relies more heavily on words than on number, despite increasing attention to "numeracy" as a necessary complement to "literacy." That tradition largely consists in reading and discussing texts, as the great books curriculum of St. John's College reminds us (see discussion of heritage-based curricula in Chapter Six and Appendix A). For that matter, a large chunk of every liberal-arts curriculum reveals a similar orientation. From this it is a short step to the conclusion that the cause of liberal arts, if it cannot be championed solely on that basis, should be championed *at least* on that basis.

A curricular design built around such a conception assumes that every human expression means something, though not necessarily what it seems to mean. Some of the most interesting meanings are the ones that have to be drawn up like water from a well. Similarly, interpretation may bring out conflicts, contradictions, hidden desires; student interpreters can scout their way through forests of signs, smelling out the strategies by which a particular discourse seeks to persuade. (The endeavor recalls Vance Packard's efforts to reveal "the hidden persuaders" in advertising, and parallels the inquiries made by the Aspen Institute Workshop in Communications into the meanings of popular television programs, as well as Kenneth Burke's investigations of propaganda and other forms of rhetoric.)

Another advantage of such a structure for innovation is that it can incorporate a very wide range of material. Great texts of our cultural tradition should doubtless figure in a curriculum built around this approach: to understanding the meanings in those verbal artifacts is to become more knowledgeable, more knowing, more sensitive, and more analytical, and thus a more educated and fuller person. The learner who acquires an interpretative competence is in a better position than others to "learn how to learn" and this is both a general and a practical benefit. Such an approach shows its practical side by addressing other ensembles of signs: newspaper stories, advertising messages, personal letters, political speeches—or just plain lies. The ability to bring to the surface hidden assumptions and structures is of use to anyone who has to navigate in a world of confusing claims and bombarding appeals. It is of use to the learner who as a citizen must decide how to vote on a candidate or an issue. It is of use to the learner who as a consumer needs to make a purchase. And if that student is a lifelong learner—e.g., a member of a crafts union—it is useful if it can help to clarify the real intent behind a negotiating procedure, or embodied in a verbal agreement, such as a contract.

The final type of structure chosen for this discussion aims at the *future*. A "proactive, developmental curriculum" is Sheldon Eisenberg's name for an offering he has developed at Syracuse University.[10] Since it resembles future-oriented courses offered elsewhere, it will be useful to point out some of its features (see discussion on futures-based curricula in Chapter Six and Appendix A.)

It begins with *brainstorming*. Participants try, for instance, to think of ways to use a bathtub or to change the color of a wooden chair, then make free associations around their ideas about the future. Every member of the class cuts the list of ideas to three phrases of words with the most personal meaning, then adds an *ing* suffix. For example, friends becomes friends-*ing*. The goal is to bring out the possible actions which associations imply. The participants share these results and a teacher-facilitator draws forth unifying themes, asking persons with similar associations to discuss them. At a later stage—the *futures-windowing* phase—members of the class develop questions about the future, then distinguish between those they expect will happen, expect will not happen, hope will happen, and hope will not happen. A matrix emerges which enables students to understand what underlies their expectations, and to communicate their sense of the future to others. Items that appear in the more dangerous area of the matrix (e.g., "hope will not happen") can alert the facilitator to problems to be explored further—in, for example, a counseling session. In the *final phase* participants write scenarios in which they imagine something they would like to achieve in the future, then describe this in a newspaper story or a letter to someone living in the "past." Writers of scenarios then get together in various combinations (based on similarity or opposition of perspectives) so as to develop ideas they have outlined.

The facilitator can follow through by tracing with participants the progress they later made toward realizing the aims they have defined. Collective aims are harder to follow up because they are more complex and because they may require a longer stretch of time in which to unfold. Here is where the type of activity just described should be tied to coursework in the basic liberal arts curriculum. For many offerings in that curriculum have to do precisely with the way people in the past wrote their future scenarios. The culture of the past should come to be seen as a kind of collective letter to the present. Indeed, one way of learning what to do in the future is to consider what was done in the past. The imaginative stretching achieved in a properly conducted futuristic activity can help a learner become more involved in other kinds of learning. If a learner experiences the dynamics of assimilating the present to the future, he or she can better appreciate what is to be gained from assimilating the past to the present, or the present to the past.

ADVANTAGES AND DISADVANTAGES

After suggesting some ways of organizing an innovative, interdisciplinary curriculum, a brief list of both the advantages and the disadvantages of such a curriculum may be in order. A first advantage is that such a curriculum can deal with problems not adequately addressed by the conventional disciplines. Second, it can effect a creative dissonance with those disciplines, teasing them forward toward new possibilities even as it realizes possibilities of its own. To put it another way, by opening windows, it ventilates the disciplines and the departments in which they are housed. Third, the existence of such a curriculum, by effecting creative dissonance and ventilation, can upgrade disciplines and departments, and this in turn, can have a positive impact on the innovative curriculum. Fourth, such a curriculum helps to bridge gaps between academic constituencies. It provides at least a partial answer to the crisis brought to a head by C. P. Snow and F. R. Leavis in their famous debate over the "two cultures" of the sciences and the humanities. Fifth, interdisciplinary experience can sharpen the self-definition of disciplines. In demonstrating the things it can do, an interdisciplinary approach encounters some things it cannot do, or can do only with the help of particular disciplines. This makes clearer the strengths and limitations on both sides—interdisciplinary and disciplinary—of the curriculum. And finally, an interdisciplinary curriculum provides a place for a more regularized approach to innovation. In the words of anthropologist Victor Turner, it is a region of "liminal" investigation, of activities on that exciting borderline of learning that is sometimes called the "cutting edge." It is admittedly a region of high risks, where making mistakes is a price that the curriculum designer must be willing to pay if better educational results are to be achieved.

The principal disadvantage of an interdisciplinary curriculum is that it can become too much of a good thing. If carried to its ultimate logic, it could replace departments, for example. But that would mean that an institution loses a crucial point of academic leverage, a department being, as previously noted, a valuable instrument of quality control. Interestingly, in institutions that have moved away from departments, faculty often find it necessary to maintain contact with established departments. Evergreen State, which is almost totally interdisciplinary, sends its faculty members back to traditional departments for academic renewal and Empire State makes use of a quasi-departmental structure. And it takes little "interpretation" to discover that the restructured colleges, programs and other institutional divisions of innovative schools sometimes amount to little more than a reshuffling of the deck. In any case, the survival of disciplines and departments is a good thing for the interdisciplinary curriculum for one reason: it permits the interaction of tradition and innovation, fostering creative friction leading to synthesis. To repeat a point, the relationship between interdisciplinary innovative curriculum and conventional curriculum is and should be *dialectical*.

In any case, interdisciplinary efforts rarely prove effective unless they are undertaken in a favorable atmosphere, and one of the most important factors in creating such an atmosphere is institutional support. Since such endeavors are a challenge in themselves—in some cases even a threat—faculty members are often reluctant to take a leap without solid backing. Such backing frequently takes the form of a faculty-development program which makes a conscious effort to facilitate constructive change, which not only permits but encourages high-risk educational experiments, and which provides adequate funding for such experiments and for other developmental activities which the institution as a whole has defined as objectives.

RELATED CONSIDERATIONS

Innovative curriculum can have significant implications for teaching and learning. "The teacher manages the environment within which the pupil is to learn. Thus, a particular type of curriculum implies a particular set of expectations in the teacher. In curricula described broadly as progressive, the teacher exercises less direct control than the traditional teacher, and this in itself means some redefinition of his role in comparison with the more usually held expectations for a teacher. It follows that any curricular change implies a change, great or small, in the role of the teacher."[11] What is true of teaching is equally true of learning: any curricular change implies a change in the role of the learner. In this way interdisciplinary curriculum can become a place for the development of teaching and learning modes which are more readily taken up in a high-risk environment.

Through team-teaching and other modes of interaction—including interaction with the content of other fields—faculty members can acquire new sensitivity, new skills, and new knowledge—without in the least giving up the sensitivity, skills and knowledge they already have. In short, teachers become learners again. The value of all this for the "cognitive" side of education should be obvious: teachers and learners really do learn new things through interdisciplinary innovation, and these things they learn can be just as solid as the things they learn in more conventional ways.

Equally valuable are the implications of such innovation for the so-called "affective" domain, which tends either to be neglected or partitioned off from the cognitive. (Even to speak of two domains is, of course, misleading.) Harold Gintis goes so far as to argue that "the type of personal development produced through school and relevant to the individual's productivity as a worker . . . is primarily *non-cognitive*. That is, profit-maximizing firms find it remunerative to hire more highly educated workers at higher pay, essentially *irrespective* of differences among individuals in cognitive abilities or attainments. . . . Thus the education-related worker attributes that employers willingly pay for must be predominantly *affective* characteristics—personality traits, attitudes, modes of self-presentation and motivation."[12]

STUDENT DEVELOPMENT

Certain college and university services assist members of the academic community through that part of their collective "course of life" that transpires in the institution. Among these are activities grouped under the heading of student development, a designation pointing to student personnel staffs, and others providing counseling and advising, as well as to various arrangements, such as cluster colleges and theme houses, aimed at enhancing the life of the community as well as its individual members (see Arthur Chickering's discussion of student development in Chapter One). The range of activities includes those that K. Patricia Cross brings together in her recent examination of "The Curricular Evolution."[13] Of the general approaches to student development worked out in the 1970's, the most significant for Cross are the *humanistic, developmental*, and *multidimensional*. The *humanistic* approach, stemming from the work of G. Stanley Hall, Abraham Maslow, and Carl Rogers, argues for the development of whole persons to the full extent of their respective capacities. Such development has the best chance of success in an environment which is consistently supportive since students then have a chance to develop their potential through self-discovery, through the expression of feeling, and through relatively spontaneous action. The concept of the *teacher-as-facilitator*, discussed earlier, applies equally to student-development personnel who, according to the humanistic theory, should permit ambiguity, self-generated decision making, and high-intensity encounters. For a generation or so, the higher education pendulum has swung back and forth through this area, with the result that this humanistic approach has significantly affected a small number of institutions and has affected to a lesser degree a large number of community colleges.

The second or *developmental* approach arises from the thinking of Dewey, the cognitive-theory inquiries of Piaget and Bruner, and the personality theories of Erikson and Loevinger. Emphasizing interaction between individuals and their environment, the developmentalists depart from the *laissez faire* orientation of the previous approach. "Theirs is a hierarchical model in which there is an invariable order for increasingly advanced stages of development. Every human being passes through the same stages; no stage can be skipped; each stage is more complex than the preceding one; and each stage is based on the preceding one and prepares the individual for the succeeding one."

It may be in order at this point to draw out the implications of these approaches for curriculum design. According to the *humanistic* plan, designers create offerings that foster learning possibilities, relying on the spontaneity and "natural" potential of the learners. The curriculum makes a place for sensitivity training and validates the use of basic encounters, the development of communal settings in which students can express themselves, and the integration of student experiences—to the extent of giving academic credit for them—into the curriculum. According to the *developmental* approach, designers create distinct curricular structures corresponding to theory of development which is to be implemented. Whereas the humanistic approach tends to be horizontal and expansive, the developmental tends to be vertical and cumulative. Since part of the desired cumulative effect depends upon interaction between a cognitive structure already gained and a new experience, curricular designers following such a model would stress the articulation of levels within a total structure, as well as the sequences to be determined within each level.

Such theoretical differences should not blind us, however, to the fact that in practice the two approaches can be translated into similar goals. There is little distance, for example, between the humanistic notion of community and the developmentalist notion of W. G. Perry, Jr., who concludes "that *the* most important source of support for positive student development derives from the realization of community—from the feeling that the student is part of a community of people, all of whom are working out their own 'Commitment,' which is Perry's highest position of development. In order to help students move up the stages of development to their highest attainable level, Perry suggests that educators should be open with students in sharing their own 'thinking, groping, doubts, and styles of Commitment.'"[14] Such an approach stresses the role model, as suggested by the assumption that the educator is somehow the *origin* of the sharing. Here we must recognize a qualitative difference from the previous approach, which replaces the model with a mediator who is less concerned with "top-bottom" exchange than with "horizontal" exchange.

Multidimensional approaches, which together constitute the third student developmental type are less holistic than the humanistic, and less theoretically predetermined than the developmental; they are, in a word, pluralistic. They are also behaviorally oriented which means that they rely on measurable outcomes and measurable procedures for attaining those outcomes. Being pluralistic, this type of approach examines affective, social and physical dimensions of development in addition to the purely intellectual dimension. Thus the first of Chickering's seven vectors of development is the achievement of competence, which is intellectual, physical *and* interpersonal.[15] A conspicuous example of such a multidimensional approach is the *competence-oriented* strategy of Alverno College, which defines eight things learners should be able to do as a result of their experience of the curriculum: communicate effectively, analyze, solve problems, make independent value judgments and decisions, interact socially, understand the relation between individuals and the environment, understand the contemporary world, and be responsive to the arts and humanities.

As for the role of counseling, which is collateral to the specific curricular practices arising from these three approaches, Cross concludes: "Certain counselors may find humanistic precepts more useful for creating an environment in which students can explore without threat where they are in their stage of development and how to get where they would like to be. Other counselors might find themselves comfortable and useful teaching a class in moral development; still others may wish to help students work toward specific competencies."[16]

CLOCK AND CALENDAR

Among other considerations related to the curriculum are those involving the clock and the calendar. As recently as 1975, Ernest L. Boyer found it necessary to place "Changing Time Requirements" in a deep historical setting in order to show that the time structures we employ are artificial and arbitrary. Like the courses in a curriculum, they appear to be "second nature," but are in fact social constructions. "The notion that education is something one gets only before going to work must be replaced with the idea that education is a lifelong process, going on during, after and in between working days. If we can change the idea, our colleges will increasingly move from serving the calendar to serving people of all ages. Education would then be truly learner-centered."[17] Recognizing such a need, some institutions have started shifting toward strategies for "re-entry" of older students and for interruption or "stopping-out" for students of various ages. So far, these strategies have had little curricular impact, with a few notable exceptions.

One such exception is GENTRAIN, or General Education Train, at Monterey Peninsula College. This is a modulated program of 15 independent segments covering different cultural periods, with one semester credit given for completing each of the 15, two-week segments (16 class hours). As in the St. John's curriculum, chronology determines sequence. For example, the first three course units (of the seven offered in the fall of 1975), were Prehistoric and Earliest Civilizations (to 1,200 B.C.), Foundations of the Classical World (1,200-500 B.C.), and Golden Age of Greece (500-300 B.C.). What distinguishes the structure from standard surveys is the fact that students can board or leave the "train" of courses at the beginning and end, respectively, of any of the two-week segments. Such an arrangement suggested to the curriculum designers the need to organize the sequence thematically. In practice, instructors develop themes for each module during a planning session taking place not less than two weeks before the module begins. During the first class meeting the coordinator introduces the theme; then each instructor explains briefly how his or her portion of the segment relates to that theme. As the session draws to a close, instructors and students engage in an interchange of the "triangular" type discussed above. The normal sequence of prepared presentations, schematized in hand-outs, begins with the second session and continues throughout the module, whereupon the process begins all over again.

Looking back on the 1960's, JB Lon Hefferlin concludes that "the major development . . . with respect to the calendar [consists] in rearranging the academic day—notably by substituting 'intensive' courses, which are taken one at a time, for traditional 'concurrent' courses, which are taken three, four, or five at a time throughout a term."[18] The intensive approach has a long history beginning at least as early as 1877, when Williamston Female College in South Carolina pioneered a plan that endured until 1909. Colorado College's block-plan approach, a recent variation on this surprisingly old theme, divides the calendar into nine blocks of three and one-half weeks, followed by a break (from Wednesday noon through Sunday) of four and one-half days (see Appendix B). In every block a student normally takes one principal course. Most courses fill one block, though some fill two or three; each block is worth three and one-half semester hours (or one unit of credit). This temporal scheme has its spatial counterpart in a "course room" which permits the learning group to "individualize" its sessions by scheduling meeting times at their own convenience.

Students also use the space for informal meetings after class. Analogous block plans, with several variations, have been employed at Mount Vernon College, Martin College, Evergreen State, and other institutions.

"The . . . dominance of traditional concurrent courses has until recently eclipsed the obvious advantages of intensive courses: the greater flexibility they allow for student-faculty interaction; the freedom they offer from the time and place constraints of hourly schedules and competing classes; the opportunities they afford to explore, if necessary, the geologic strata of the Grand Canyon or the art of Florence; the relative ease with which they can accommodate the particular needs of the subject, the idiosyncracies of the instructor, and the momentum of the students."[19]

The intensive-course approach connects with Perry's stage of commitment, which can be said less confidently of the concurrent approach. For concurrent courses "prepare students for a detached approach not only to work and to other people, but also to life in general. In contrast to intensive course, they implicitly convey the message, 'Play it safe. Keep yourself loose. Spread yourself thin. Don't get committed. . . .' In brief, the underlying message of concurrent courses seems to be that commitment is unwise and that singlemindedness is suspect."

As for the yearly calendar, the present picture is a mosaic of structures. The Austin College calendar calls for two periods of seven weeks (two courses), a January term of four weeks (one course) and a spring term of fourteen weeks (four courses) (see Appendix B). Colgate University has a thirteen-week fall term, a four-week January interim term, and a spring term of the same duration as the fall term. Central College follows the simpler scheme of dividing the year into three segments of eleven weeks each, with three courses taken in each segment.

Among these and other institutions offering curricular innovation, the most notable calendar feature is *the interim January term*—the middle segment of the increasingly common "4-1-4." Like the summer term, the interim period is something of a "wild card" period when teachers and learners can play for somewhat offbeat educational stakes. It often becomes *the* place, in an otherwise conventional curriculum, where innovation can occur on something like a regular basis. Naturally, when it becomes the only place where innovation can transpire, more comprehensive change is short-circuited, leaving the conventional curriculum to go grinding along at its usual glacial pace.

A recent series of efforts by Pacific Lutheran University illustrates the convergence that can occur when an institution takes advantage of this type of calendar. They also illustrate the principle that an interim period encourages valuable departures from conventional curricular designs, expecially through interdisciplinary experimentation. At PLU, thirty-two faculty members decided to create a series of interdisciplinary courses. The first group of sixteen met for one week in June in day-long sessions working with two consultants. The agenda called for discussions of teaching techniques, the use of videotaping in the improvement of instruction, curriculum design, and approaches—both intellectual and organizational—to interdisciplinary study. Representative of the courses offered (all but one of which were taught by a team of two professors) were: Civilization: Great Problems, and Mathematics; Man: Biology vs. Culture; Is Sex only a Gender?; and The Savage God: Demystifying Suicide. The disciplines brought together included philosophy, biology, mathematics, religion, art, history and sociology.

In August a comparable number of faculties gathered to design a new set of mini-courses to be taught—like the first set—shortly after the completion of the workshop. This time more emphasis was placed upon specific teaching techniques and pedagogical training methods, upon development in interdisciplinary studies and interdisciplinary models elsewhere, and upon the relation of interdepartmental initiatives to institutional development.

The offerings developed include a course in Teilhard de Chardin taught by a professor of religion and a biologist, where the focus is upon a single figure viewed from contrasting perspectives. Another course concentrates on the meaning of words. In this offering a scientist and a humanist employ game techniques—in which students, for example, are asked to sit back to back and decide which one is to communicate and which one is to respond. The communicator is then handed several dominoes which he arranges as he sees fit, describing the arrangement in any verbal way he wishes. (An arch, a square, a line, etc.) The point is not to validate any particular way of communicating; the point is for each member of the team to act out and through discussion become conscious of the wide variety of motivations, modes of expression, constraints, and intersubjective structures that come into play in any situation involving the use of words. In a course on the First World War, a German teacher and historian sought to involve students experientially by, among other things, giving them excerpted and scrambled elements of Expressionist poetry which they were then challenged to reconstitute. A mini-course in mysticism, involving a professor of Spanish and a professor of religion, took advantage of unusual and evocative settings, bringing students out of the confines of the classroom and the schedule and into a religious edifice at a "magical" hour, dawn. The teachers also made use of religious music and visual arts.

The 4-1-4 calendar has provided PLU and other schools with an area in which to develop innovative curricular approaches—approaches which are more difficult to experiment with during a conventional semester or quarter. The one-week mini-course has proved to be another format through which it is possible to work toward the same objective. Furthermore, some of the courses were created as, in effect, trial-runs for longer interdisciplinary courses during the regular academic year, and others show promise of being put to the same use.

CURRICULAR DECISION MAKING

The previous section of this chapter stressed description and illustration. The present section, the last in the chapter, stresses the normative and the schematic. The aim is to spell out the bases for making decisions leading to curricular improvement; and to do this we need a checklist of things to bear in mind as well as some guidelines for selecting from it.

Curriculum design, according to many theorists, follows a linear model. The designer specifies the aims to be achieved, selects experiences likely to foster such achievement, and determines the content with which to produce those experiences. Subsequently, the result is evaluated, leading to a "feedback" phase in which the results are brought to bear on the original design. The great problem with this model is that it does not match the way in which curriculum is actually designed. In "De-mystifying Curriculum Development," William C. Hall explains its inadequacies:

> *Firstly, it is assumed that aims (and objectives) can be defined at the start of the programme. In actual fact many aims which had never been previously considered are seen to be achieved during teaching. Secondly, it is assumed that all aims (and objectives) are amenable to assessment whereas this is just not true. It is also likely that an attempt at formal evaluation of some attitude aims could, in some circumstances, do more harm than good. Thirdly, in placing content at the third stage there is the feeling that content for content's sake is*

> *rather unclean, not quite respectable. But content can be a fruitful area for the devising of aims and learning experiences. Fourthly, there is a mistaken assumption that evaluation is the final chapter of any piece of curriculum development, an error which Bloom, Hastings and Madaus (1971) go some way to correct.*[20]

A truly adequate theory recognizes that every single aspect of a curriculum design interacts with all the others. It is not by a linear model but by a *dialectical process* that good designs come to pass. To be sure, at some level of abstraction it may be possible to sort out aims, experiences, and content; but in reality the definition of any of these requires the definition of the others. Furthermore, it is not necessary to be all *that* clear about aims, in advance of a curricular innovation—though it is always desirable to be as clear as possible. It may be better, in a given instance, to determine, first, what experiences should be emphasized in relation to an existing content (e.g., the anthropology course model described earlier). Once an innovative process gets going, the need for different types of experience may suggest itself, and the same may apply both to content and to aims. Indeed, any innovation worth the name *ought* to generate surprises, as much for the designers as for the learners.

In reality curriculum gets developed in many different ways, in different contexts, at different rates of speed, for different purposes in relation to different needs at different times.

A non-linear model of development (such as the one employed by the University of Adelaide) permits the designing process to begin at various points. One department asks for help in figuring out the level of student skills. Through discussion the department gains a clearer notion of the aims it already has, as well as the criteria by which to decide whether they are being met. Gradually, the question of teaching techniques comes to the fore, bringing with it the question of evaluation, which can be clarified only in light of the previously determined aims that were already being practiced. This is the point at which another department starts: "Department B wanted a large number of short, colour video-recordings made. Ways of teaching and organization of content were almost immediately discussed. The aims applicable to this area of the course were derived from the actual programmes. An evaluation study is being planned and *assessment* has been mentioned." Such a model is, roughly, circular, so that the process of designing can be entered at any point, at any time, for any number of purposes. Such a model reminds us that the moment you sit down to work on curriculum, you relate to something that already exists. Your options are either to perpetuate it or change it. Even the most radically innovative design defines itself in large measure by differing from something that has already been tried. In this sense, the moment you begin to start, you have already started: you are already immersed in history, already engaged with content, even as you think about aims. Content is a particularly important consideration, which helps to explain the crucial role of interdisciplinary approaches to redefine content, and to develop experiences and other curricular elements in relation to such redefinition.

Viable models of curriculum development make allowance for answers to at least the following questions:

1. Why am I teaching this?
2. Why am I teaching this in this particular way?
3. How should I organize the content of my courses?
4. What technology is appropriate?
5. What do I expect students to be able to do, or to know, or to believe as a result of my course?
6. How do I know how successful I have been?[21]

The list can be varied, as circumstances require. For a curriculum committee, the first question might be restated: why are we offering this? Question three could take the form: how should we organize the total content of the curriculum in relation to the content of particular courses? And so on. It should also be noted that the list need not be a sequence. Thus, while evaluation is most conspicuous in question six, it should be possible to ask such a question at any time.

WHERE DO WE GO FROM HERE?

How do curriculum designers normally proceed, once they decide to undertake reform? They proceed by following other curriculum designers. The very first step, of course, may be a self-study. But the crucial step is the one taken in response to the question: where do we go from here? If that question leads in a wrong direction, an all too familiar consequence comes about—a curriculum design based on an inappropriate model. An appropriate curriculum design requires decision making on the following bases, which are listed in the present order merely for convenience.

First, the design needs to be related to institutional *identity*. However successful a particular approach may have been elsewhere, it may not work at the institution in question. What *will* work depends upon that vague but powerful concept known as "mission," referring to the sense of direction arising from institutional identity. The new design need not be held back until complete clarity has been reached in this regard; nor must it necessarily accept a definition merely because it is familiar. But it should be able to demonstrate some concrete relation between the design being shaped for an institution, and the institutional identity that shapes the total mission.

Second, curriculum design should not exceed institutional *capability*. To put it more affirmatively: all things being equal, reform should play to strength. During the recent expansive, expensive years of higher education, the curriculum grew irrespective of the capability of an institution to carry it off. Surely the time has come to replace this formula of "more is better" with something along the lines of: "Let us do better with what we have." The quantitative approach, in other words, gives way to a *qualitative* approach, based on what the institution is actually capable of doing well, not on merely what it would like to do. This means that interdisciplinary innovation, for example, should grow out of existing competence or genuine potential. Which is to say that constructive innovation is likely to come from those who, already good at something traditional, have untapped available skills and interests. If a particular innovation requires these competencies, skills, and interests, and if the institution cannot locate them internally, it is probable that the innovation either 1) should not be attempted, or 2) should be undertaken in collaboration with other resources (a nearby college, a community agency, and so on).

Third, curriculum design should take into account the *needs of learners*—a goal more easily stated than achieved. For an institution can better serve the people in an area by clearly identifying them and their interests. But even if the institution can arrive at such knowledge, a curriculum design still has to strike a balance between what the learners think they need and what the designers think they need. In such a process the designers should operate on assumptions arrived at by weighing institutional identity and capability.

All of these considerations flow into a fourth, which can be stated in terms of *costs*. On a financial level, the issue is readily seen: the issue of how much something costs in dollars or dollar equivalents. But what of the other equally real if intangible costs that are involved when an institution undertakes curricular change? "Progress" in one phase of the curriculum may mean "regression" in another phase. Strengthening the area between departments may mean weakening the departments themselves. Consequently, the operative assumption should be that the change—whatever gain it promises—will mean some sacrifice. If change can be brought about without this, so much the better. But from the operational point of view, it is better to be prepared for such a problem and never have to face it, than to face it without being prepared. It is a way of applying to curriculum design Dr. Johnson's dictum that nothing so clears a man's mind as the thought of being hanged.

Given the variables that have been described, it would be unwise to anticipate, let alone to prescribe, the specific features of curriculum development at a given institution. Instead, briefly and schematically, some of the important choices that must be made in order to produce a workable, innovative curricular design will be restated. Curriculum maintenance or theoretical questions about curriculum in general cannot be an important concern here. The focus must continue to be constructive change.

For decision making purposes, the orientation of an innovation or a series of innovations depend upon how the following scales are balanced. *One scale* extends from the less to the more specialized. Weighted at the former end the design tilts toward "general education" aims, with emphasis upon broadening experiences of value to the whole person. An innovation aimed at non-majors is the obvious fit for such an emphasis. At the other end of the scale, we find a concern for the needs of the learner who is already advanced in a particular area and who needs experiences not furnished by present offerings. An innovation intended for life-science majors, for example, could investigate the procedures of genetics or, where that already exists, genetic engineering. Such an approach, it should be said, does not foreclose generalist options. The same subject, with a focus on public policy and ethical questions, could form a component in a curriculum of the ecological type described above. It could also, if presented in a non-technical way, become a general offering. Basically, the first problem is the level on which a curricular enterprise ought to be carried out.

A second scale extends from concentration to diversity. Weighted at the former end, the curriculum gives priority to one particular orientation—which may, of course, be quite broad, as shown by the University of Wisconsin at Green Bay approach. Diversity, on the other hand, implies something for everyone (to overstate the case for purposes of discussion). Since a highly concentrated approach is most feasible at the formative stage of an institution, and since diversity is already a hallmark of the curriculum we now have, this is a scale on which the weighting is likely to be more or less evenly distributed. Such distribution reflects a current trend in two directions, one toward courses in "depth," with focus on themes or problems, and another on a renewal of "coverage" courses, with focus on basic preparation in a variety of materials. This relates directly to the tightening-up of requirements within a credit structure that nonetheless retains elbow room, and alongside the development of personalized instruction.

A third scale, which has already been discussed at some length, extends from disciplinary or interdisciplinary. It amounts to a decision about the role of disciplines (and departments) in relation to developments which normally take place between them or outside of them. It has been argued that one desirable goal is interaction between disciplinary and interdisciplinary approaches. This still leaves open such questions as—Where is a particular innovation to be housed? Some schools answer temporally, as it were, putting the innovation in the middle month of their 4-1-4 calendar. Some schools answer spatially, putting it in some clearly distinguished space. All schools must put the thing somewhere, organizationally; but where it goes depends on those previously mentioned assumptions concerning identity, capability and the like. A good deal also depends upon the local leverages—whether the dean's office has credibility, whether the office of the vice president for academic affairs or the divisional chairman can reach the right faculty members; or whether faculty representative bodies are approximately constituted to deal with change. The point is to underline the necessity of featuring these kinds of questions prominently among the bases of decision making. For often so much effort goes into designing the content of a curriculum that important considerations of practice—in this case, the leverage point which is equally the point of departure—get neglected.

Of the three categories of alternatives to be weighed, none has more potential bite than this one, which leads implicitly to the question of departmental organization. It is probably the scale on which the issue of costs will come most readily into view.

Closely related to the last is the series of decisions to be made regarding the structure of innovative offerings. Designers must opt for a concurrent-course or an intensive-course format, or a combination. As part of the same problem they must decide how the innovation fits into the yearly academic calendar. The answer to both of these questions will have a bearing on teaching-and-learning modes, though not a conclusive one. The designer will still have to decide the relative weight of the lecture, discussion group, field work, group projects, individualized instruction (e.g., foreign-language or botanical autotutorials), peer-tutoring, internship, and so on. In general, the more an institution innovates in the first two areas (course format and calendar), the more weight will shift to the less-traditional modes. The converse, however, does not necessarily follow. Thus it is possible, as the Cornell University Department of Psychology has shown, to implement effective peer-oriented discussion, with advanced undergraduates as leaders, within the structure of a discipline with a clearly established orientation of its own. That brings us to the final point, which is the need for articulation among these variables—more precisely, for spelling out the basis for deciding *how* to articulate. Neglect of such a point could result, for example, in the creation of an intensive, semester-long course in which the dominant instructional mode is the lecture, a development which would in all likelihood prove disastrous. The example, perhaps, is far-fetched, but the principle is valid.

In conclusion, it will be useful to bear in mind the range of possibilities, from a learning point of view, on which a curricular design may draw.[22] None, perhaps, will encompass everything in the range, but any innovation should strive to encompass as many that harmonize with its objectives. Stated in schematic and normative terms, an adequate curriculum design should provide for:

1. Experience in different disciplines, different cultures, and different value systems, in addition to the learner's own.
2. Experience in dealing with the learner's cultural heritage.
3. Experience in dealing with current problems, both in relation to traditional approaches and to newly-developed approaches.
4. Life and work in a community, including some collective academic and social activities.
5. Independent study, focusing on an area that the learner has defined or helped to define.
6. Practice in communicating by speaking and by writing.
7. Continual contact, on a close basis, with faculty members.
8. Continual evaluation, including self-evaluation.
9. Involvement in small, personal and large, impersonal learning situations.
10. Involvement in long-term and short-term learning situations.
11. Personal development.
12. Aesthetically creative activities and play.

In the part that follows, the reader is invited to examine a series of institutions which have recently engaged in serious curricular innovation. The programs offered by these institutions may be regarded as providing, in many cases, models of curricular improvement. At the very least, they contain elements which deserve attention in light of the institutional considerations previously discussed in these pages.

NOTES

[1] *Education and the New America* (New York: Random House, 1962), p. 298. See discussion, pp. 298-303.

[2] *Education and the New America*, p. 299-300.

[3] See discussion, pp. 33-39.

[4] *The School Curriculum*, p. 39.

[5] Musgrave, p. 185.

[6] "What is a Competence-Based Curriculum in the Liberal Arts?" *Journal of Higher Education*, XLVI (1975), 25-40.

[7] *New York Times*, Nov. 10, 1975.

[8] "Inter- and Transdisciplinary University: A Systems Approach to Education and Innovation," *Higher Education*, 1 (1972), 7-37. See Resource Directory No. 1—*Interdisciplinary: A Selected Bibliography for Ushers*, Change in Liberal Education, Jan. 1976, pp. 4-8.

[9] John Fisher, "The Easy Chair," *Harper's* (February, 1971).

[10] "Exploring Alternative Futures: A Proactive, Developmental Curriculum." *Impact*, III, 1 (1976), 42-47.

[11] Musgrave, p. 198.

[12] "Toward a Political Economy of Education: A Radical Critique of Ivan Illich's *Deschooling Society*," in Illich et al., *After Deschooling, What?* eds. Alan Gartner, Colin Greer and Frank Riessman (New York: Harper & Row, 1973), pp. 58-59.

[13] *Accent on Learning* (San Francisco: Jossey-Bass Inc., 1976), pp. 135-231.

[14] *Accent on Learning*, p. 152.

[15] *Education and Identity* (San Francisco: Jossey-Bass Inc., 1969), pp. 20-38.

[16] *Accent on Learning*, p. 160. Charles Warnath, *et al.*, *New Directions for College Counsellors* (San Francisco: Jossey-Bass Inc., 1973), is an interesting collection of views by practitioners in the field.

[17] *Learner-Centered Reform*, p. 20.

[18] "Intensive Courses—A Research Need," *The Research Reporter*, Center for Research and Development in Higher Education, University of California, Berkeley, VII, 3 (1972), 1. Cf. Hefferlin, "Intensive Courses: An Old Idea Whose Time for Testing Has Come," *Journal of Research and Development in Education*, VI, 1 (Fall 1972), 83-98.

[19] "Intensive Courses—A Research Need," 2.

[20] "De-mystifying Curriculum Development," *University Quarterly*, XXIX, 2 (Spring 1975), 169.

[21] "De-mystifying Curriculum Development."

[22] The list is based on Mayhew and Ford, *Changing the Curriculum*, pp. 162-163.

3

Curricular Practice

By WILLIAM H. BERGQUIST

As an independent consultant in higher education, Bill Bergquist is the co-author of *A Handbook for Faculty Development, Volumes I and II*, published by the Council for the Advancement of Small Colleges; and co-author of "Facilitating Comprehensive Institutional Development," an article which appeared in New Directions' *A Comprehensive Approach to Institutional Development*, which he also co-edited. Bill also heads his own publishing company, Pacific Soundings Press, based in Berkeley, California.

Chapters Five and Six focus more on the content of the curriculum, as introduced in the third and fourth chapters. Attention in this part, however, is directed toward actual curricula, rather than the theory and underlying assumptions of curricular design.

Bergquist considers the general issue of curricular diversity in Chapter Five. To what extent should a college develop a distinctive curriculum? To what extent should it develop a curriculum that is diversified, and responsive to the complex needs of the student body and community? He observes that college curricula tend to look very much alike and argues for the development by at least some colleges of curricula that are unique. Only through inter-institutional diversity can American higher education preserve its vitality.

The author concludes Chapter Five with a discussion of several ways to organize the various types of nontraditional curricula that are now present. While recognizing its preliminary and incomplete nature, Bergquist offers an eight-category model of the nontraditional curriculum: heritage, thematic, competency, career, experiential, student, values and futuristic. These eight categories, in turn, compose the basis for discussion in the sixth chapter.

The discussion of heritage-based curricula in Chapter Six ranges from a description of an institution-wide heritage-emphasis to a description of specific entry-level courses that are oriented toward heritage. Most heritage-based curricula focus on western civilization, though an increasing number of colleges are now offering programs that encompass or even center on nonwestern cultures. Bergquist offers the same range of descriptions when considering thematic-based curricula. Several institution-wide thematic curricula are *described that focus on environmental studies. More common, however, are colleges that have embraced a specific theme, and have designed a major program (but not an entire curriculum) that is responsive to this theme.*

Competency-based curricula are becoming increasingly prevalent in American higher education as a result of several pressures that are now being exerted on the academic community. Bergquist describes several essential ingredients of a competency-based curriculum. Career-based curricula are also becoming more common: liberal arts and technical education are being more fully integrated in several different ways, providing students with new skills as well as changing attitudes about the world of work.

The author describes six different types of experience-based curricula, ranging from simulations and on-campus field experiences to domestic and international field studies. Cooperative education is an established and effective vehicle for experience-based learning. A student-based curriculum can also encompass a wide variety of approaches. Students can be given significant control over the substance and course of their studies through a reduction in required courses, independent and tutorial studies, learning contracts, student-faculty negotiations about the curriculum or student-run courses.

The final categories that are described by Bergquist, values and future-based curricula, have come into recent prominence and may become even more common as colleges begin responding to the pervasive social and cultural changes in our society. A values-oriented curriculum may serve one of three functions: inculcation, expansion or clarification. Either a values or futuristic orientation might be used to structure an entire curriculum, to establish a specific program or to provide the college with a distinctive "emphasis."

Throughout the sixth chapter, Bergquist has attempted to provide a broad-stroked description of innovative curricular designs. He has not provided a detailed analysis of any one curriculum. The first appendix to this volume contains curricular materials from eight college curricula which represents each of the eight categories described by Bergquist. The second appendix contains brief descriptions of innovative college curricula, most of which have been mentioned by Bergquist. Further information about these eight curricula, as well as the many others described in this section, should be obtained from the colleges.

CHAPTER 5

Diversity in the College Curriculum

In 1970, Edward Joseph Shoben appraised the current implications of the liberal arts in American higher education for our society. He offered a blunt conclusion: the liberal arts have no implications for contemporary society. "The liberal arts, as this new decade begins," stated Shoben, "are unidentifiable."[1] From the perspective of the mid-1970's this observation may seem premature or even inaccurate. The liberal arts are returning—almost with a vengeance. At many colleges and universities, the core curriculum is being reinstated or expanded. According to Malcolm Scully, in an article in the *Chronicle of Higher Education*, "the changing attitude toward the curriculum represents, at least in part, a return to educational values that were prevalent at colleges and universities until the late 1950's or early 1960's."[2]

The curriculum of the late 1970's, however, can never replicate the standard curriculum of an earlier era, for too many profound changes have occurred both inside and outside the academic community (as documented in the previous two parts of this handbook). Students are asking for a liberal arts education that relates directly to career goals, yet also want to explore the values, heritage and current practices of our society and culture. Shoben is correct in concluding that "patchwork tinkering with the so-called liberal curriculum will accomplish little if anything of significance" given these changing conditions, and in noting that these conditions are deeply rooted in the changing pattern of our civilization and will not soon pass us by.

DIVERSIFICATION IN COLLEGE CURRICULA

In the past, American colleges and universities have faced these changing conditions by offering an increasingly distinctive curriculum. A strong theme of diversity is deeply interwoven in the fabric of American higher education. American colleges and universities have traditionally exhibited diversity of mission and structure in response to the unique and emerging needs of specific religious, socio-economic, sexual, community, career, vocational or ethnic groups. We can look back with justifiable pride through more than two hundred years of American higher education to find a variety of new institutional and pedagogical forms that have emerged to meet changing needs.

Within recent years, however, serious concern has been expressed about the current and future status of institutional diversity. When faced with changing conditions, many educational leaders are tempted to look for answers in the established programs at successful colleges and universities, and to rely on proven and accepted curricular structures. As in most other settings, the reaffirmation of current practices is a common response to change. Most colleges and universities offer essentially the same courses, in the same sequence, under similar scheduling conditions—this in spite of significant differences in the skills, attitudes, experiences and needs of the student and faculty populations at these institutions.

Frank Newman and other members of his national task force on American higher education have been articulate spokespersons for this concern. In the original Newman report,[3] a general trend was noted: public and private institutions of higher education were becoming more and more alike. Most colleges and universities, in attempting to be all things for all people, are in their internal diversity becoming carbon copies of one another. An equally-prestigious national study group, the Commission on Nontraditional Studies,[4] similarly described a trend toward homogeneity of college offerings, and the increased need for program diversity given the emerging educational demands of adult learners and other "new learners" (e.g., ethnic minorities, lower-middle class students). An even more recent plea for collegiate diversity was voiced by former Secretary of Health, Education and Welfare, David Mathews. In his address at the 1976 Annual Meeting of the Association of American Colleges, Mathews expressed his own personal concern that the bureaucracies of higher education would produce an unwanted uniformity among both private and public colleges and universities.

At the heart of the plea for greater diversity is the content of the college curriculum. While an increasing number of colleges are now experimenting with alternative curricular structures (e.g., 4-1-4 calendars) and with new instructional methods (e.g., self-paced instruction), it is not at all clear that the content being conveyed through these structures and by these methods is being significantly re-examined and modified in response to changing conditions. Unless the curriculum of a college reflects a distinctive mission through its content, then diversity will be no more than a facade that disguises an underlying uniformity. In surveying a number of colleges and university catalogues one suspects that the facade of diversity prevails.

Obviously, not all colleges need be distinctive. Uniqueness for its own sake will rarely sustain innovation in any institution. Furthermore, since a student will usually attend (and will increasingly attend) a college that is within 100-200 miles of his home, it is essential that curricular innovations not be isolated in a few distinctive institutions that are scattered throughout the country. If these innovations are to be accessible to all students, then they must be housed within institutions in each region of the country. Hence, most colleges and universities will need to embrace a variety of curricular approaches if diverse student and community needs are to be effectively met.

In order for a college or university to develop its own unique curriculum, it must be able to look to other curricula for guidance and inspiration. Few colleges or universities currently have the financial resources or expertise to embark on effective curricular reform without some external assistance. Thus, while diversity is desirable, it should not block communication between programs that differ in certain important respects, yet retain some essential commonalities. Unfortunately, at the present time, the only common model of collegiate curricula is the general liberal arts program. Typically, a liberal arts college requires a certain number of courses in a variety of disciplines, these courses taken, in most instances, during the first two years of college. There is often a required survey course on Western civilization that is typically oriented toward political history and/or the arts and humanities. There is usually some latitude in course selection. The student takes one or more courses in the social or behavioral sciences, one or more courses in biology and/or the physical sciences, and several courses in the arts and humanities. In addition, one or more basic skills courses are required in such areas as writing (composition), speech, and physical education. During the concluding two years, the student usually focuses her attention on a specific academic major, with some time being provided for several elective courses outside the major.

The significant curricular decisions of the college are usually made at the department or division level. Those aspects of the curriculum that are institution-wide typically do not involve any substance, for virtually all of the courses (even general survey courses) are controlled by a department or division. The college-wide curriculum committee usually devotes its attention to such issues as the number of courses that should be required at the Freshman level and the cut-off point, in terms of verbal College Board scores, for enrollment of students in remedial English. Often, the campus-wide curriculum committee only tampers with those courses in skills-acquisition areas (composition, speech, physical education), usually over the vociferous objections of the faculty members who offer these courses.

Though the current functions of most campus-wide curriculum committees are essential, and usually very time-consuming, they reflect a critical state of atrophy in curricular reform. Cause and effect are difficult to attribute. Are curricular processes in a state of disrepair because there are few alternative models of campus-wide curricular reform that are viable, or are the models absent because of the disrepair in curricular planning processes? It is probably sufficient to note that both factors contribute to the absence of curricular vitality and diversity.

ALTERNATIVE CURRICULAR MODELS

As we turn to an exploration of course designs that diverge in some significant manner from the traditional liberal arts offering, we must first bring some order to bear on the chaotic display of courses, programs and institution-wide curricula that faces us when we attempt to describe the nontraditional. The descriptive categories that have been offered by several respected scholars in the field provide a valuable base for starting this process (see David Halliburton's discussion of curricular structures in both Chapters Three and Four).

Paul Dressel[5] identifies four continua when discussing the basic elements of curriculum development. The first continuum contrasts concern for the individual student with concern for the discipline, while the second contrasts a primary concern for problems, policies and actions ("practical" education) with a primary concern for abstraction, ideas and theories ("ivory tower" education). Highly flexible and adaptable programs are contrasted with rigid, uniformly-imposed patterns (continuum three). The fourth continuum sets off programs that seek integration, coherence and unity from those programs that are compartmentalized, inconsistent and discordant. Dressel believes that these four continua are essentially independent and implies that in each instance the second of the two extremes is more frequently descriptive of the traditional liberal arts curriculum than is the first. Nontraditional curricular designs can be described as: 1) student-oriented (first continuum), 2) problem-oriented (second continuum), 3) individualized (third continuum) and/or 4) integrated (fourth continuum).

At a later point in the same book, Dressel specifically describes eleven different curricular models.[6] As noted previously by Halliburton, a "dewy-eyed" program is individualized, problem-based and life-oriented. A "saintly" conception emphasizes heritage, scholarship and intellectual elitism. Dressel describes the "pedantic" pattern as discipline-oriented, specialized and oriented toward the academic profession. A narrowly vocational model is skills-oriented, specialized and job-related. Each of these four models, according to Dressel, is weak because it represents an extreme position on one or more of the four continua. The "dewy-eyed" model, for instance, does not take sufficient account of the discipline, while the saintly and pedantic models inadequately prepare a student for the contemporary world as a result of their inflexibility and "ivory tower" orientation.

Dressel offers seven other models that are less traditional and more responsive to both ends of each continuum. The first model, entitled "outreach," encourages the student to integrate "real life" and academic experiences through a series of off-campus, service-oriented placements. The second model ("single module plan") relates to the scheduling of courses rather than the substance of an educational experience. The student concentrates on one area of study at a time rather than simultaneously taking several courses. The "theme college" is Dressel's third nontraditional model. A major social issue or problem is identified. Students and faculty rely on several disciplines and various practical experiences to work toward resolution of the issue or problem.

The remaining four models are innovative and certainly uncommon in American higher education, yet rely on accepted modes of instruction: tutorials, independent studies, workshops and off-campus field experiences. All four models rely heavily on one-to-one contact between the student and her advisor or tutor. Each student fashions a study program that is specifically related to her own interests and needs. These four models provide flexibility in the scheduling of courses. Students gain increased freedom as they progress through their college experiences. Though there are some differences between these final four models—labeled by Dressel as Individual Tutorials, Integrated, Elective and Flexibly Rigid—they are closely interrelated and clearly represent Dressel's own personal preference for a college curriculum.

Like Paul Dressel, Lewis Mayhew and Patrick Ford[7] offer a series of curricular issues that can be readily placed on continua. They first contrast a cultural and utilitarian emphasis in the college curriculum, then distinguish between a general and specific curricular orientation. A third issue relates to the open or closed status of the curriculum. Should courses be prescribed or elective for students? Fourth, should the curriculum be designed for the elite or for everyone? Fifth, Mayhew and Ford differentiate between a curriculum that is oriented toward the student and a curriculum that is oriented toward the subject-matter. The sixth curricular issue adheres to the fifth: should the curriculum be discipline-oriented or problem-oriented? The final continuum contrasts a scientific emphasis with an emphasis on the humanities.

Mayhew and Ford note that major curricular reforms in American higher education have inevitably struggled with one or more of these issues. The general education movement, for instance, represents a movement away from student-election, subject-centeredness, specialization, discipline-orientation, utilitarianism and elitism, much as the cooperative education movement represents a turn toward utilitarianism, student-election and specialization. We can turn to the less traditional ends of Mayhew and Ford's first six continua[8] to arrive at a categorization system for nontraditional curricula: a) utilitarian, b) general, c) open, d) populist, e) student-oriented and f) problem-centered.

There are areas of obvious overlap between the categories that have been derived from Dressel, Mayhew and Ford. One area of common attention is an emphasis on *heritage*. Dressel's "saintly" curriculum and Mayhew and Ford's cultural emphasis refer to a scholarly exploration of our heritage. These writers also refer to a *thematic* curriculum—one in which a specific problem or issue becomes a unifying and motivating curricular force. In addition, Dressel, Mayhew and Ford identify a *career* orientation for the college curriculum. This orientation is reflected in the utilitarian, skills-related and "real life" categories of the three authors.

In several different ways, they describe curricula that are *student*-oriented. These curricula are individualized and responsive to the immediate and identified needs of each student. Finally, these authors include at least one category that applies to *experience*-based curricula. Emphasis is placed on the student's confrontation with issues, activities and responsibilities that reside outside the comfortable walls of the academy.

A descriptive system which includes only these five curricular categories will be incomplete, however, for several areas of contemporary curricular development are absent from the lists of both Dressel, and Mayhew and Ford. Specifically, neither list identifies competency-based, values-oriented or futuristic curricula as distinct categories. Each of these three curricular approaches is currently coming into prominence in American higher education.

By combining the initial list of five nontraditional curricular models derived from Dressel, Mayhew and Ford, with the three new curricular models just identified, we arrive at a single list of eight curricular models that includes most of the current curricular innovations in this country:

1. *Heritage-Based:* The curriculum is primarily designed to provide students with a clear and meaningful sense of their own cultural and historical background(s), thereby providing them with the knowledge and skills to deal with current and future problems associated with this heritage.
2. *Thematic-Based:* A specific, pressing problem or issue of our contemporary society is identified that encompasses a wide variety of academic disciplines; an educational program that will provide students with the resources needed to solve and/or cope with this problem or issue is then designed.
3. *Competency-Based:* A set of specific competencies which a student is to acquire and/or demonstrate prior to graduation is identified; educational resources (including course work) are developed, assembled or identified in order for the student to diagnose current levels and achieve desired levels of competence.
4. *Career-Based:* Programs are specifically designed to prepare students for a certain vocation, admissions to a professional training program, or a vocational decision-making process.
5. *Experience-Based:* On-and-off-campus experiences that are in some sense educational are created or provided: the college takes some responsibility for controlling the quality of the experiences, sequencing the experiences, and relating the learnings from these experiences to principles that have been conveyed through more traditional modes (lecture, discussions, seminars).
6. *Student-Based:* Students are allowed a significant role in determining: a) the nature of the formal educational experiences they are to receive, b) the ways in which these experiences are to be interpreted, and c) the criteria and means by which they are to be evaluated. Typically, some form of learning contract is developed between a student and mentor (teacher, advisor) or between several students (student-initiated and/or student-conducted courses).
7. *Values-Based:* Students are provided with the educational resources and experiences to clarify or expand on their current values or to acquire new values; these values are related to current social, political or religious issues or to the student's life and career plans.
8. *Future-Based:* Conditions are created for students to acquire knowledge, skills and attitudes that are appropriate to the creation of a desirable future or that are adaptive to a predictable future society.

These eight models tend to interrelate with one another with reference to two pervasive curricular questions that were discussed by both Dressel, and Mayhew and Ford: 1) how general or specific should the curriculum be that is offered by this college? and 2) to what extent should the curriculum be prescriptive or elective with reference to the role played by students? The eight curricular models can be graphically related to these two dimensions in such a way as to form a circular diagram (see Figure One). The left hand side of the circle reflects a dominant concern for generality whereas the right side reflects a dominant concern for specialization. The top of the circle indicates a dominance of curricular prescription, whereas the bottom reflects an elective bias in which students have primary control over the content of the curriculum.

Each of the eight curricular models tends to be most closely associated with those models that are adjacent on the curricular circle and to differ profoundly from those models that appear on the opposite side of the circle. Though the curricular circle shows only a few of the numerous and complex dimensions that constitute the curriculum of a specific college, it provides a useful conceptual base for the categorization and description of curricular designs.

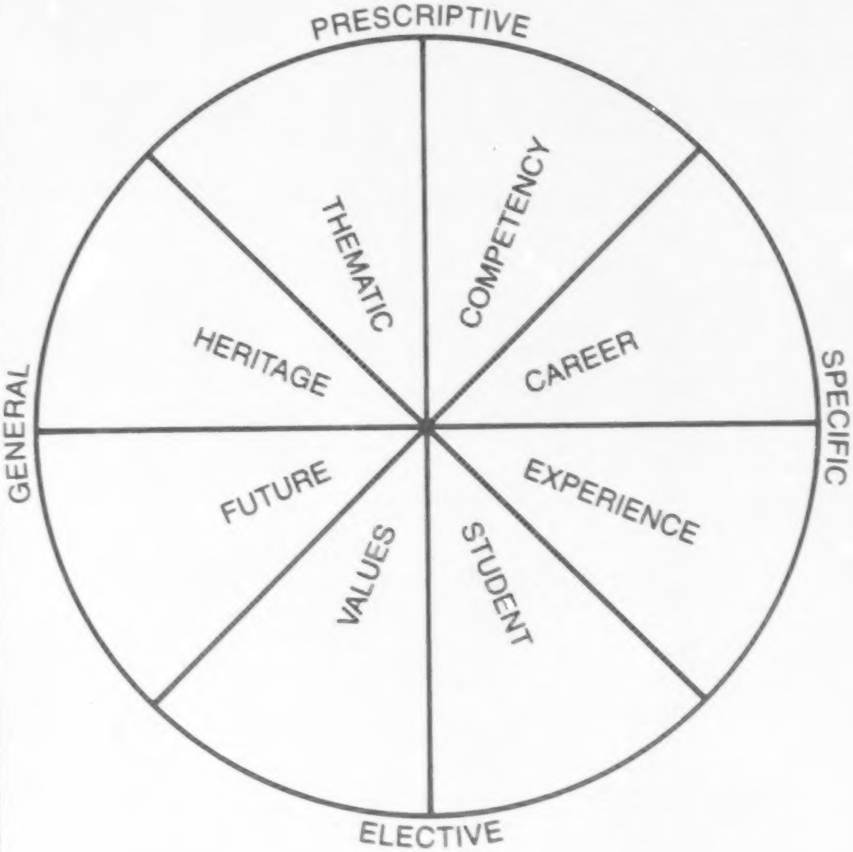

FIGURE ONE: The Curricular Circle

The curricular circle is probably more comprehensive than the lists derived from either Dressel's or Mayhew and Ford's discussions; however, it still suffers, as do the other two lists, from a lack of elegance. The eight categories represent a mixed bag of curricular dimensions. Several categories specifically refer to the content of the curriculum, while others refer to the way in which decisions are made about the curriculum or ways in which students are likely to learn. A more sophisticated system for classifying nontraditional curricula would incorporate at least five dimensions: 1) curricular *breadth* (for example, cross-cultural, cultural, regional, problematic and experiential), 2) curricular *control* (student, class, instructor, department, discipline and institution), 3) instructional *process* (lecture/discussion, audio-tutorial, programmed text and experiential), 4) curricular *structure* (concurrent scheduling, modularized scheduling, self-paced scheduling and credit-for-experience), and 5) curricular *outcomes* (knowledge, skills, awareness and values-clarification).

Such a classification system is certainly desirable and would be a valuable addition to the body of curricular theory that now exists in higher education; however, it is beyond the scope and purpose of this section. In helping the reader assess the current and potential curricular offerings of her college, I will instead provide a more detailed description of each of the eight models that were listed above. In describing these eight models, I will focus primarily on institution-wide programs, and will give some consideration to curricular innovations that are found in a department or other academic unit of the college, or are found in a specific course or even subsection of a course being offered at a college or university. In Appendix A to this handbook we have provided more extensive descriptions of eight college curricula which represent each of the eight categories. Appendix B contains brief descriptions other innovative curricula which also illustrate to varying degrees one or more of the categories.

NOTES

[1] Edward J. Shoben, Jr., "The Liberal Arts and Contemporary Society: the 1970's," *Liberal Education*, 56 (1970), pp. 28-38.

[2] Malcolm G. Scully, "Many Colleges Re-Appraising Their Undergraduate Curricula," *The Chronicle of Higher Education*, 13, No. 21 (February 7, 1977), p. 1.

[3] Frank Newman, and other members of the Special Task Force to the Secretary of Health, Education and Welfare, *Report on Higher Education*, (Washington, D.C.: Department of Health, Education and Welfare, 1971).

[4] Samuel B. Gould, and Associates, *Diversity by Design* (San Francisco: Jossey-Bass, Inc., 1973).

[5] Paul Dressel, *College and University Curriculum* (Berkeley, California: McCutchan Publishing Co., 1971), pp. 22-24.

[6] Dressel, Chapter 12.

[7] Lewis B. Mayhew and Patrick J. Ford, *Changing the Curriculum* (San Francisco: Jossey-Bass, Inc., 1973), pp. 2-5.

[8] Mayhew and Ford.

CHAPTER 6

Eight Curricular Models

HERITAGE-BASED CURRICULA

Though general education, by its very title, presumes to be wide-ranging and broad-based, it is usually limited to an examination of the heritage or cultural milieu of the Western world. American colleges and universities have generally ignored Eastern civilizations in their general education programs and have concentrated on events and artifacts of the past. Though proponents of general education, such as Daniel Bell,[1] argue that general education programs will adequately prepare the student to deal effectively with present and future conditions, the relevance of a general education is still in doubt among many skeptics of this curricular model.

Until the late 1960's, most American colleges and universities tended to emulate the general education programs of Harvard, Chicago, or Columbia. The curriculum at most adapting institutions, however, was limited to a freshman-year survey course or several course options in heritage-related disciplines (history, philosophy, the humanities and the arts). In more recent years these courses have been modified in response to changing student needs, as well as social and political upheavals. Many general education programs have been reduced in size, increased in scope (to include non-Western cultures) and/or updated. Thus, while the academic leaders at many institutions would describe their programs as traditional, and would feel comfortable about their curriculum being placed in a heritage-based category, the current status of these programs would in fact be much less clear. The typical curriculum is a hodge-podge, responsive to a variety of concerns and models.

If one examines those college curricula which are still consistently oriented toward the transmission and preservation of heritage, the discrepancy between a typical curriculum and the "pure" heritage-based model becomes apparent. St. John's College in Maryland probably offers the most consistent and best-known example of a heritage-based program. At St. John's, students read the "great books" of Western civilization and discuss these books in a variety of seminar settings and through various individual scholarly activities. Building on the University of Chicago model of general education, St. John's provides its students with a rich survey of political, social, philosophical and scientific thought (see Appendix A for a more extensive description of the St. John's Curriculum).

Many liberal arts colleges during the 1950's and 1960's offered a heritage-based survey program that extended beyond a single course or single semester. At Occidental College, a history of Western civilization program was required of all freshmen and sophomore students during the 1950's and 1960's. This program, constituting approximately one-fifth of the total collegiate program for each student at Occidental, embraced a wide range of disciplines (philosophy, religion, art, literature, economics, government and so forth) with history serving as the unifying discipline. Virtually all members of the faculty contributed to this program by providing lectures on topics in their specialized area, as well as leading weekly discussion groups.

The same type of team-taught survey program has been offered at Eckerd College, though the Eckerd program extends over a four-year period, consumes fewer credit-hours than the Occidental program, and includes non-Western and Western civilizations. Reed College offers a comparable two-year program: the first year is required and the second year is optional. The Reed College program highlights ancient and modern civilizations in all parts of the world.[2]

At all three colleges (Occidental, Eckerd and Reed), traditional instructional methods are used to convey the content, i.e., lectures, discussion sessions, seminars and movies. Oakland College offers a four-year general studies curriculum which employs somewhat more innovative methods. The students become actively involved in the cultures they are studying through a required Performing Arts Workshop which involves improvisations in dance, theater and music.[3] Austin College has also introduced instructional innovations in its new "Heritage of Western Man" program (see Appendix B).

Many colleges and universities offer interdisciplinary courses or programs that are heritage-based. Typically, these programs are not required of all students and usually are found at the periphery of the curriculum. At Brown University[4] a particularly interesting set of "extra-departmental" courses are offered, many of which are clearly related to heritage, for example, "The Citizen as Victim: The Individual and the State in Selected Post-Revolutionary Societies," "Faustian Man," "History of Biology and Medicine," and "Voices of Romanticism." Because of its focus and concentration, an interdisciplinary course often serves as an antidote to the more general survey course or program which has become diffuse and superficial.

The final type of heritage-based curriculum to be mentioned is the introductory or entry level course which is associated with some skill-acquisition function (e.g., composition, scholarship, or research methodology). Many freshman composition courses, for instance, center around a specific heritage-based theme which serves as a catalyst for student writing in the course. Brown University,[5] offers an intriguing set of freshman and sophomore level courses entitled "Modes of Thought." In these courses, students participate with faculty in small seminar groups. Primary emphasis is placed "on the methods, concepts and value systems required in approaching an understanding of a specific problem, topic or issue in a particular field of inquiry."[6] Examples of topics included in this program are: "The Concept of the Hero in Literature of the English Rennaissance," "The Dynamics of Militarism: The Prussian Example," and "The Fortunate Fall: Moral Initiation in American Fiction."

The future of heritage-based curricula is difficult to assess. On the one hand, the press on many institutions to be "relevant" and to deal immediately with profound social issues has subsided. The anti-historical perspective of the later 1960's and early 1970's left its mark, and few colleges can afford the luxury of returning to a "pure" heritage-based program. Yet, nationally it would be desirable if some institutions would return to this pure form, for there is a significant void that cannot be filled by one or two St. John's Colleges. There is also a need for more heritage-based programs that are not tied to such traditional structures as seminars or formal academic roles. There is no reason why a highly innovative structure (e.g., individualized learning or simulation-based courses) cannot be applied to the teaching of a heritage-based curriculum.

Even more important is the need for adult-oriented heritage-based curricula. Through the creation of weekend colleges and educational programs that link vacations and liberal arts programs for the entire family, many colleges and universities could attract the adult learner. Such a person may like a traditional liberal arts education for its own sake or for professional advancement; or she may want to become reacquainted with the liberal arts which she devalued and ignored, or never received, as an undergraduate. We may find an increasing tendency for colleges and universities to provide career-oriented education to the 18 to 22 year-old student who, as a result of a tight job market, can no longer afford the luxury of an "elitist" liberal education. Colleges and universities may instead offer liberal educational programs to the adult student who has already established job security, but now wants to improve the quality of her life.

In the near future there may also be a re-vitalization of heritage-based curricula as a result of increased awareness of and interest in the impact which non-Western cultures have had on our own culture and society. For at least the past thirty years, "international education" has been an accepted, though usually secondary, component of many liberal arts curricula. Usually this term has been used to describe a junior year abroad or international student exchange programs. Within recent years, however, some colleges have developed interdisciplinary programs which center on cross-cultural studies. At Randolph-Macon College[7] a junior year abroad program, which began in the 1920's, has gradually expanded into a full blown international studies program which touches on many cultures: Latin American, Russian, Asian, African, Indian (Asian) and British. Randolph-Macon now faces the problem of ensuring that students at the college are adequately prepared in their core program for these specialized cultural studies programs. Furthermore, the faculty at Randolph-Macon must constantly face the dilemma of deciding which cultural area(s) to emphasize. Most small liberal arts colleges will have to be restrictive in their selection of specific international studies programs, for they usually do not have sufficient resources to mount a comprehensive international studies program.

Several new colleges have been created specifically for cross-cultural studies. The Friend's World Colleges was founded in 1965 for the purpose of providing students with:

> *in-depth knowledge and first-hand experiences in a culture other than their own, as well as to promote an understanding of several other cultures and developing regions. The college is committed to developing change agents whose work might help create a better world.*[8]

Similarly, two of the cluster colleges at the University of the Pacific (UOP) were created to further cross-cultural understanding. Covell College at UOP is for Spanish-speaking students and English-speaking students who wish to learn Spanish and study Latin-American cultures. Callison College (recently combined with Raymond College) at UOP emphasizes the history and culture of the non-Western world. Students at Callison spend one year at a college located in a third-world nation.[9]

The short-term rise of various ethnic studies programs at many colleges during the late 1960's and early 1970's also reflects the emerging interest in cross-cultural programs. While many of these programs were discontinued, the interest which they sparked remains. Similarly, interest in non-Western philosophy and religion continues to be significant, as does interest in non-Western politics, economics and language. The contemporary student is fully aware of the global nature of virtually all significant economic, political and ecological problems. We will probably see new heritage-based programs which survey cultures from all regions of the world. In some instance, this global survey will be directly related to the cultural heritage of America, as has been the case with many ethnic studies programs. We may also see attempts to blend American and cross-cultural studies programs, as is now being done at Oakland and Mars Hill Colleges (see Appendix B).

Finally, we may soon find heritage-based programs which are integrated with other types of curricular models (e.g., an integration of heritage and values-based curricula, or of heritage and futures-based curricula). Several colleges (Alverno, Sterling, and Mars Hill) have already merged heritage and competency-based programs, and others are attempting to bring together heritage and career or technical education (Curry College and Worcester Polytechnic Institute). These mergers have produced several highly distinctive programs. Nevertheless, it is essential that some institutions create or preserve curricula that are distinctive and consistently oriented primarily toward the preservation and transmission of our cultural heritage, and the education of students in the full implication of this heritage for their present and future lives.

THEMATIC-BASED CURRICULA

Few colleges have acknowledged the unique relevance or significance of a specific theme to its mission as an educational institution and, as a result, then formulated and implemented a curriculum that clearly and consistently reflects this theme. Though many colleges serve a specific population of students, a specific geographic region or a specific religious perspective, they have rarely acknowledged this specificity in terms of a unique thematic emphasis for the entire curriculum. On the other hand, many colleges and universities now offer major programs that are not institution-wide but do reflect specific themes. In some instances, these special programs stand as autonomous, separately-funded entities in the institution. More frequently, they exist side by side with disciplinary programs. Other institutions have placed emphasis on a specific theme and have encouraged their faculty to include this theme in their courses, but they have not developed formal curricular structures to sustain this emphasis.

One type of thematic curriculum which is found institution-wide is environmental studies. Both the University of Wisconsin at Green Bay and the College of the Atlantic were created out of a recognition that: "no longer need we convince people that environmental problems exist, our concerns can now deal with how best to cope with these problems."[10] Both programs have already been described in some detail in the second part of this handbook. The Green Bay program has also been extensively described in Appendix A (and in Chapter Three); consequently, it will not receive further attention in this chapter.

The College of the Atlantic, even more than Green Bay, epitomizes an institution which is built around a specific theme (see Chapter Three). The College of the Atlantic (COA) can remain small while providing unique and specialized services in its thematic area, along with adequate and appropriate support services in other academic areas. Conceived in the late 1960's and begun in the early 1970's, COA is concerned with the study of human ecology—the relationships between people and their natural and social environments. The COA faculty and administration began with the following premise in mind:

> *It is clear that historically our society has failed to develop the attitudes and values which tend to enhance rather than destroy the natural world. We have learned neither to anticipate the environmental consequences of particular activities nor to use our technology wisely. New world views and new methods of approach are desperately needed.*
>
> *Concurrently, we have allowed our created environments to grow unmindful of human consideration. Our buildings, cities, organizations, and institutions have evolved in such a way as to put stress upon the human qualities of our existence. The impersonality and disorganization of our cities, the lack of concern for aesthetics, the*

> *disregard of human rights, and the difficulty of pursuing a meaningful life are all signs of this stress. We have been guided by our technology rather than by our difficult yet precious humanity.*[11]

In this statement from the first catalogue of the College of the Atlantic, one can detect the essence of an effectively designed thematic curriculum. The COA founders began with the identification of a specific problem area—human ecological disruption—then spun out the implications of this problem and its solution for all aspects of our society. While the curriculum at COA is identified, the actual course offerings are quite diverse, ranging from studies of environmental economics and design to studies of small business enterprises and and strategies for social change.

One COA program is particularly illustrative of its curriculum. COA offers a course on the whale. This course begins with an examination of the physiology of the whale and the relationship between the whale and its marine environment. To fully understand the current ecological problems associated with the potential extinction of this majestic animal, one must also understand the place of the whale in the human ecology of the region. Attention is therefore given to economic, political and even literary and mythic aspects of the whale and the whaling industry. In this way, a course which ostensibly is directed to the analysis of one issue or problem eventually touches on many fields and provides the students with a broad-based education.

One can readily envision a comparable program at other colleges. Those institutions which are associated by name or reputation with a specific river, mountain or body of water, might build a program around a specific problem that is associated with this geographic entity—for example, the pollution of a river. Courses would be offered that deal with the physical ecology of the region; in addition, the students would explore the social, political and economic aspects of the problem, as well as more general cultural and historical dimensions. One could similarly envision an institutional focus on a local community and its problems or a specific historical figure or event that is associated with the college.

For several reasons, most colleges are not in a position to consider an institution-wide commitment to one specific theme—even if this theme incorporates all of the disciplines in the institution. First, as Halliburton noted in Part Two, a curriculum contains its own inertia. Very few colleges are likely to begin from scratch in the formulation of a new curriculum that is built around a specific theme. Most of the other curricular models that we will consider do not require as significant a change in content. Second, an academic community often finds it impossible to agree on the mission of the institution. A single theme would be even more difficult to identify. Third, a college which offers a thematic curriculum must be able to attract students from a broad geographic region, since not all students will be interested in any one theme. Most colleges, however, are not sufficiently well-known to attract students from a great distance.

Consequently, most colleges and universities that wish to initiate a thematic curriculum will have to implement a new program which supplements, rather than replaces, the existing disciplinary-based curriculum. Typically, faculty members are released part-time from their departmental obligations to plan for and teach a new thematic program. Alternatively, if the institution is in a growth cycle, a new thematic program can be added to the existing curriculum, with new faculty being appointed to the program.

To illustrate this type of curricular innovation we can turn to Northland College, another environmentally-oriented institution (see Appendix B). This college provided a rather standard set of course offerings until the early 1970's, when an environmental perspective was introduced. The Northland curriculum clearly reflects the assumption that environmental studies can provide a holistic, problem-oriented approach that is compatible with a traditional liberal arts mission. Given the proximity of the college to the shore of Lake Superior, this perspective seems to be particularly appropriate.

The "liberal arts/environmental" curriculum at Northland provides a student with the opportunity to major in either a traditional liberal arts discipline or in an integrated field, such as art and the physical environment, chemistry-environmental studies, environmental politics, or Native American-environmental studies. The environmental aspects of the curriculum are coordinated through the Sigurd Olson Institute of Environmental Studies, which is a regional outreach arm of the college. The institute conducts workshops and conferences, community education projects and research projects which actively involve Northland students.

The blending of a thematic and traditional liberal arts curriculum is also exemplified in new programs on Appalachia such as those found at Mars Hill, Warren Wilson, Alice Loyd and Appalachian State Colleges (see Appendix B). Like the environmentally-oriented colleges, these institutions each have selected a theme relevant to the community in which the college is located and to the students who are most likely to attend the institution. These programs delve into problems and resources of the Appalachian region and study the human ecology of the region in terms of both social institutions (government, economics, history) and culture (music, literature, visual arts). The Appalachian programs are also often linked to American studies programs, thereby giving the student a broader perspective on and deeper appreciation of the Appalachian region. Programs of comparable scope and structure have recently appeared in the field of urban studies and community development at Federal City College, New Jersey State University (Livingston College) and the Third College at the University of California at San Diego.

A third strategy for the introduction of a specific theme into the college curriculum involves changing the "emphasis" of the current curriculum. In many colleges that stress an evangelical religious commitment, the theme of faith and learning is emphasized without any specific action taken to develop curricular structures that support this emphasis. In some instances, this emphasis never gets beyond the catalogue curriculum of the institution. In others, the emphasis makes a difference, especially if it is periodically reinforced by faculty workshops, special institution-wide forums or assemblies, or the public pronouncements of institutional leaders.

In the implementation of a thematic-based curriculum, a planning group might wish to consider a gradual introduction of the theme. It might first be brought into the curriculum as a short-term (one to two-year) "emphasis." A three-day workshop on this theme could be held for faculty in August and followed by a college-wide forum during the first week of the term. Nationally-known speakers, as well as faculty members from the sponsoring college, could make presentations, lead discussions or provide demonstrations. The theme might be reinforced at several hour-long campus assemblies during the following year. At the end of the academic year, the faculty would determine if the theme is sufficiently important for a new program to be established. A long-term planning effort can then be started to determine if and how this theme might become the central organizing principle of the college's curriculum.

As in the case of heritage-based curricula, not all colleges will develop a thematic-based curriculum. Yet a vital and diversified higher education community should include some institutions which offer distinctive curricula that systematically and comprehensively respond to a significant theme in our society. As Edward Merrill has noted, a thematic or specialized curriculum need not be considered incompatible with a liberal arts education:

> *To many respected liberal arts faculty the idea of liberal studies serving a special purpose is inconceivable. It seems a violation of the definition of liberal studies and an unpalatable conceptual compromise. This is not necessarily so. Liberal studies can and do serve many special purposes without compromising the broad central mission of developing the individual who is a free and independent thinker, capable of using academic tools effectively. It may be that the liberal arts student coming out of a program such as this is even more effective, for he not only has a breadth of knowledge and intellectual tools with which to work, but he has experienced a liberal arts program which at least meets conditions that are essential to him. He knows, he thinks and he sees with light that comes from a slightly different angle, but he has the same sense of purpose and orientation which should catapult him into the center of his society as a thinking man.*[12]

COMPETENCY-BASED CURRICULA

Within the past five years, competency-based programs have become increasingly prevalent in American higher education. This trend is likely to continue as a result of at least three interrelated forces. First, increased attention is being devoted to educational outcomes by members of the higher education community, as well as trustees, state legislators and even judges in the federal courts. A competency-based curriculum provides the means for a direct assessment of educational outcomes. Unless the outcomes of higher education can be clearly specified and documented by members of the higher education community, then this community will lose critical financial and moral support, or will be subjected to inappropriate and externally-imposed outcome measures. Second, the graduate of a competency-based program can more persuasively document specific job-related skills than can the graduate of a traditional program; thus, he may be more likely to get a job after graduation—a very attractive feature for perspective students. Third, a competency-based program provides a convenient vehicle for the integration of liberal arts and career education. Basic competencies can be identified which underlie effective functioning in all aspects of life. A student need not be repeatedly convinced that training or education in the use of these competencies will be directly relevant to her career goals.

Current interest in competency-based education has not been restricted to the professional or vocational educators; this movement has also had a significant impact on the liberal arts curriculum. Alverno and Sterling Colleges have led the way with regard to the development of a competency-based curriculum for the liberal arts. Documents from the first of these two institutions have been included in Appendix A.

A third college, Mars Hill, has also developed a competency-based curriculum (see Appendix B). Robert Knott,[13] then dean of instruction at Mars Hill, has proposed that a competency-based program which is to fulfill these three purposes must contain four basic components. First, the program should be based on a sound epistemological structure. A comprehensive system must be formulated for the identification and classification of competencies. Mars Hill has employed Philip Phenix's six patterns of meaning (see discussion of this classification system in Chapter Four). Another college might use the six competencies that have been identified by Paul Dressel[14] or the categories developed by either the Alverno or Sterling College staff.

Second, a competency-based liberal education curriculum should provide structures for promoting student mastery of advanced skills or expertise in at least one specialized area. Competency statements in an area of specialization should include the specification of minimal levels of knowledge and skills, specification of abilities to apply high-order critical and creative thinking skills to information in this area of knowledge, and specification of abilities to synthesize skills and knowledge of an area with broader knowledge in the liberal arts.

A third requirement is the formulation of a scheme for identifying, assessing and promoting a student's development of intelligence based on her current level of personal development. Knott suggests that Arthur Chickering's development scheme from *Education and Identity* be used. Such a scheme is needed to ensure that the competencies which have been identified are matched with the current interests and concerns of students, thereby ensuring that the competencies are relevant to and attainable by students. Fourth, Knott states that a competency-based program in the liberal arts should contain a set of values which are deemed important by the institution. These values should not be imposed on students, but should instead be used as a means of assessing the overall success of the new curriculum.

The competencies that have been identified by the staffs at Alverno, Sterling, or Mars Hill, or by Phenix and Dressel are clearly of value to any college in reviewing, reorganizing or reformulating its curriculum, even if this institution does not embrace a competency-based curriculum. It would be wise for virtually all colleges to re-examine their current curricula in light of basic competencies, given the increasing pressures for accountability and specificity. Some colleges might also want to consider a somewhat different approach to competency-based education that has been taken at MacMurray College. This institution offers a competency-oriented participative education (COPE) program which allows students to demonstrate competency in twelve different areas through a variety of means. Each student develops his own personal learning program (Liberal Education Profile) in consultation with his advisor. The concept of competency seems to have been introduced at MacMurray as a means for helping the student and advisor determine an appropriate learning plan rather than as a means of reorganizing the curriculum of the institution.

CAREER-BASED CURRICULA

While liberal education has always purported to contain a "vocational" objective, most recent discussions about career education have been relegated or restricted to the leaders of community colleges and technical schools. The career-oriented student, as John Scally has noted, often feels alienated on the liberal arts college campus:

> *Crossing campus from the machine shop to the academic classrooms the career student is moving between alien environments, and discussing the beauty of Shakespeare's sonnets with a group of students wearing grimy blue coveralls can be a very discomfiting experience. Somehow we expect these career students to carry these values generated in a literature or humanities class back to the machine shop; but no provision is made for this transfer of value, no strategy exists to create a holistic system of humanistic value and work ethic.*[15]

Liberal arts and career education are clearly interrelated (also see the discussion on this relationship in Chapter Three). As Earl McGrath has observed, the distinction which has often been drawn between them has never been very convincing:

> *One of the basic errors made by earlier advocates of general education as well as by their opponents was the assumption that an*

> *unavoidable and mutually privational conflict exists between specialized vocational training and the goals of a liberal education. The more realistic and, in fact, theoretically authentic conception of higher education for a democratic society is that the two types can and ought to be pursued simultaneously, but in balanced proportions.*[15]

The distinction between liberal arts and career education is falacious, in part, because a liberal education does prepare a man or woman for a career. In the past, this career was that of a white collar worker or manager. While the content of a liberal arts education may not have provided the graduate with the specific tools of a profession or trade, it did provide her with communication and problem-solving skills, as well as orientation to the norms and values of the dominant corporate culture. Today, the college graduate is no longer automatically given a white collar or managerial position. Consequently, the liberal arts college must consider alternative curricula which will provide appropriate education and training for the graduate who is entering a demanding job market.

The re-examination of traditional academic programs in light of changing career patterns and needs has taken place in several different ways. First, community colleges and technical schools, which have traditionally been assigned responsibility for career education, now are beginning to expand their liberal arts offerings. Prestigious technical schools such as the Massachusetts Institute of Technology, have long recognized and acted on the need for the integration of a humanistic and technical education. Other schools, such as the Worchester Polytechnic Institute, have initiated new courses and programs which relate technological training to social values and the humanities (see Appendix B). The leaders of these institutions recognize that their graduates will be competitive in a tight job market only if they are provided with not only technical skills of the trade, but also the capacity to creatively and sensitively work with social, ecological, political and economic forces that are associated with the application of technologies.

The same type of integration has occurred in other professional training programs. At the University of Florida at Gainsville, students in professional and pre-professional schools are provided with a humanities program that is jointly conducted by members of the professional training staff and faculty from the departments of history, philosophy, literature and the social sciences. Students from health-care fields, law, engineering and business administration are exposed to critical, humanistic issues that they must face as professionals in a radically and rapidly changing world.

From a somewhat different perspective, the faculty at Columbia College also attempt to correlate technical and liberal arts education. This college was recently reorganized to prepare students for creative occupations in the public arts (graphics, photography, television and so forth). Many of the students who attend Columbia College, however, are from the lower economic class of Chicago, hence students are also taught basic survival skills for living on a small income in an urban setting. In this way, the core program becomes very practical, while a liberal education is provided as a background for professional training in the arts. The new State University of New York at Purchase is similarly oriented to the interrelationships between liberal education and professional training in the performing arts.

Liberal arts colleges are also beginning to reconceive the relationship between liberal arts and career education. Earl McGrath briefly describes the primary ingredients of such a merger:

> *The situation today calls for a curricular arrangement in which the basic theoretical structure of general knowledge would be organized*

> *on an interdisciplinary basis in relation to the major problems which all human beings encounter in the course of a normal life. These general studies would then be paralleled by, and whenever possible integrated with, instruction related to an occupation or preferably to a cluster of occupations. The merits of this curricular structure are obvious. Both general and specialized studies would illuminate one another in the most meaningful contexts; motivation to acquire the broad knowledge which students now often consider extraneous to their interests would be intensified, the unity of the whole corpus of modern learning and the interdependence of its myriad parts would be exhibited. The joining of general and specialized instruction supplemented by field work would make the entire learning experience more vital and its results more lasting.*[17]

Curry College offers a program which illustrates this merger (see Appendix B). A student at Curry can choose to combine liberal and occupational studies by engaging in a field experience ("reflective action") while also attending class ("active reflection"). Through a wide variety of course and independent study options, a Curry student is encouraged to design a program which will meet specific career-oriented goals.

The Curry College student can gain college credit for non-college learning through both national tests (CLEP and Advanced Placement) and an assessment system which was specifically developed by the college. The college has revised its schedule of courses to accommodate nontraditional students and work-arrangements. Key curricular offerings have been rotated into a once-a-week afternoon and evening schedule. Comprehensive counseling and career advisement are also provided along with extensive inter-institutional linkages—most notably an affiliation with approximately 150 agencies that accept Curry students for field experience internships each semester.

A student at Eckerd College is offered several optional tracks that will provide him with valuable career-oriented experiences (see Appendix B). Each student can participate in a field experience which is preceded by counseling and orientation and accompanied by frequent contacts with a faculty supervisor. An Eckerd student can engage in a cooperative education program, which places him in a full-time job with pay for three months, or in an off-campus educational program, which provides either an internship with working experts in the field or a field experience in a new learning environment. The off-campus educational program lasts for as little as one or two days or as long as three months. As a third option, the Eckerd student can participate in a disciplinary internship which is formally related to his course of study.

Alma College is now developing a career preparation program which provides students with advisement, testing and placement over the four undergraduate years. Alma students will meet with both faculty advisers and career professionals to learn how various academic courses apply to actual work situations. Each student will prepare a personal career plan which will guide him through an academic course of study.[18]

A similar plan is now in use at Mount Mercy College. This program of career planning and guidance is based on a four stage model of career development: (1) self-assessment and self-awareness, (2) career exploration and awareness, (3) career decision making and planning and (4) job and advanced educational placement. All incoming freshmen are administered the Strong Campbell Interest Inventory, followed by small group test interpretation sessions. A peer counseling program follows, through which each freshman has an opportunity to discuss career planning and learn about the career resources at Mount Mercy. A Career Advisory System is offered in the sophomore year. Students are linked to various people in the community who are currently working in areas of student interest. A series of career awareness seminars are also held in which faculty discuss the career opportunities related to their disciplines.

In step three students participate in mini-workshops on career decision making skills and preliminary informational interviews with specific agencies, organizations and businesses where they seek employment. The fourth stage involves a series of placement seminars covering various aspects of the job search for seniors, as well as more "traditional" placement services (job interviews with recruiters, newsletters on job search strategies, credential files, listing of job openings). A follow-up study is conducted each fall on the previous year's graduates.

Another model for integrating liberal arts and career education has been developed by Lone Mountain College through its "Tunbridge" program (see Appendix B). The student first enters an orientation and planning program (as in the case of the Alma College student) which helps him define career goals and interests. The student then consults with about twenty experts in the San Francisco Bay Area who represent his major fields of interest. Most of the experts are members of the Tunbridge "network" (a group of some 350 career professionals who have agreed to work with the program's students). Each student then identifies a specific project to work on and submits a "scenario" of the project to a faculty adviser, who, in turn, distributes the scenario to appropriate members of the network. A linkage between the student and a network member ensues, and the project is initiated (usually for one semester). Tunbridge projects effectively interrelate the personal and professional interests of students, serving as a valuable model for the merger of liberal arts and career education.[19]

A third approach to the integration of liberal arts and career education is represented in the enduring and extensive work-study program of Berea College (see Appendix B). This college was established soon after the Civil War in an effort to increase respect for manual labor which had been exclusively associated with slavery. All students are required to work at Berea College while in residence there. Students contribute their manual labor and craftsmanship, rather than pay tuition. They either provide their services to the college, cutting overhead costs, or produce goods which are sold for profit by the college.

In performing work while attending Berea College, students "gain an appreciation of the worth and dignity of all the labor needed in a common enterprise; acquire some useful skill; and develop a sense of responsibility for a specific task."[20] In this way, Berea College contributes to not only the skills of its students, but also to their work and career-oriented attitudes.

Several other collegiate institutions have also made use of this type of work-study program. Probably the most notable is Warren Wilson College. Since 1894, the college has continued to maintain a work program, whereby every student works fifteen hours a week in return for room and board. The program covers the wide range of work necessary for the college to maintain itself. Students work as carpenters, plumbers, secretaries, bankers, heavy equipment operators, newspaper editors, publicity agents, teachers and so on. The work program is administered by a student work director with a staff of four other students. This office is responsible for assigning positions, evaluating work needs, and evaluating students and supervisors. The Warren Wilson program is more extensively described in Appendix A.

In both the Berea and Warren Wilson programs, students seem to value and benefit from the integration of physical labor, craftsmanship, administration and academic studies. Furthermore, a work-study program provides many students who could not afford a private college education with the opportunity to do so, thus increasing enrollment at these colleges and student heterogeneity.

EXPERIENCE-BASED CURRICULA

Experience is basic to all learning. Even the most passive recipient of information from a lecture is "experiencing" the spoken words, gestures and written symbols of the professor. What, then, is usually meant by "experience-based" learning, if it does not refer to all learning? In general, an academic curriculum is described as "experience-based," or "experiential," if it encourages students to observe or participate in specific activities rather than only read or hear about these activities. Experiential learning takes the student out of the detached role of a vicarious learner and plunges her into the role of participant-observer, performer or even teacher.

In some instances, experiences are acquired by students through observation of or participation in activities ("field experiences") that occur primarily for purposes other than the student's learning. In other instances, the experiences are tailored, in part, around the learning needs of the students. These are usually described as "sheltered" experiences or apprenticeships. In yet other settings, the experiences are introduced solely for learning by the students. These experiences are often simulated or oriented toward study rather than practice. To the extent that the experience can be structured around the learning goals of the student, then he can take greater risks, experiment with new behaviors and learn from making errors. The simulated or sheltered experience can be made more or less complex, demanding or interesting, depending on the background and needs of the student. Conversely, to the extent that an experience is naturally occurring or independent of the student's learning needs, it is more likely to be realistic and motivating for the student.

Experience-based learning is often equated with either off-campus field experiences or personal growth groups. However, experiential education actually encompasses a much larger set of activities: 1) simulations, 2) on-campus field experiences, 3) community field-experiences (cooperative education), 4) intercampus exchanges, 5) domestic field studies, and 6) international field studies (study abroad). I will briefly consider each of these options.[21]

In many cases, a student cannot learn from a "real" experience, for this experience is potentially harmful to the student (e.g., flying an airplane) or recipients of the student's services (e.g., a nurse training program). The naturally occurring experience might also be inaccessible to the student (e.g., running a large corporation) or might be extremely difficult for the student to comprehend or master (e.g., developing a global energy-consumption policy). In such cases, a simulation of the real experience might be appropriate.

Simulations have been included as major components of academic curricula in many professional schools. Law schools make extensive use of simulated judicial procedures, while business schools use in-basket simulations, and nursing schools simulate hospital wards and clinics. Computer simulatios are used with increasing frequency by schools of engineering and business. Chemistry, biology, and physics laboratories might also be considered instructional simulations, for the student is "simulating" original research: the results are already known, the student is not operating under the pressure of a job or grant, and the student rarely has personal investment in the outcome of the research.

In several newly-emerging fields, such as ecology and urban studies, computer simulations are often major components of the curriculum. At Dartmouth College, Dana and Dennis Meadows (the principal authors of *The Limits to Growth*) use system dynamics (a computer simulation tool which was initially designed for research and planning purposes) as an instructional tool. Students are presented with a complex ecological problem, then asked to derive one or more solutions to it. The adequacy of each solution is tested on a simulated model of the ecological problem. Both short and long-term consequences of each solution are plotted and discussed by students and professor. Since system dynamics can be used to simulate a wide variety of complex social and physical systems, its potential use as an instructional tool and organizing principle for future academic curricula should be more fully explored.[22]

As we turn our attention to experiences that are real, rather than simulated, we should not ignore the vast resources of the college campus itself. Students in the school of business can intern in the bursar's office or serve as administrative assistants to department chairpersons. History students can compile and analyze documents for a history of the college. Advanced English composition students can assist in the public relations office.

A campus can be used in many different ways as a source of experiential learning. While a member of the English faculty at Findley College, Jack Noonan (Director of the Center for Teaching Effectiveness at Virginia Commonwealth University) taught a course which involved, in part, an exploration of contemporary values. The students were to conduct in-depth interviews to determine the nature of values held by people in particular professions. Rather than interview people in the community, Noonan and his students decided to interview faculty at Findley College. According to Noonan, these interviews were of value to both the students and faculty. One can similarly use the campus as a laboratory for sociological, psychological, and even anthropological observations. A student is inclined to be more highly motivated if she is observing and analyzing her own environment; furthermore, she will necessarily have to confront the real-life dilemma of being a participant-observer.

The third type of experience-based learning program, community field experiences or cooperative education, is widely found on American college campuses. Over 700 colleges and universities in the United States offered cooperative education programs in 1975.[23] Through a community field experience, students are given the opportunity to work in their local community on either a work-study or volunteer basis. The college can establish its own on-campus agency (for example, a mental health clinic) to service the needs of both the community and learner). The on-campus service agency is particularly appropriate in a small community. If the experience is to be sheltered—that is, if the student needs to be protected from certain aspects of the real world (i.e., having to make a living by providing these services)—then an on-campus service agency for the community is appropriate.

The cooperative education movement is not new to American higher education. This type of program was first offered more than half a century ago at the University of Cincinnati, Northeastern University and Antioch College. The work-study program at Antioch College has helped to create its reputation as a progressive and experimental institution. Antioch still offers a community-based, experiential program to its students. At the Columbia, Maryland campus for Antioch, for example, students have actively participated in community action programs both on campus and in Columbia. The planned community of Columbia is especially conducive to the dissolution of traditional boundaries between campus and town.

One of the most intriguing cooperative education programs has been established at Alice Lloyd College (see Appendix B). This Appalachian institution operates an extensive community-service program:

> *. . . one-sixth of its students spend their summers plus two weekends a month during the school year living and working in 16 of the most remote regions of Appalachia. Students receive college credit and a stipend for their work in this program.*
>
> *In preparation for their community-service responsibilities, students take courses in the social sciences, rural sociology, economic*

> *development, child care, and nutrition. In addition, they are taught how to speak and relate to community administrators and how to write proposals for grants.*[24]

Two of the Alice Lloyd faculty (Mark and Mieko Landy) have stated the unique and vital mission of this institution (and comparable community-oriented colleges) in persuasive terms:

> *"Relevance" is an overused word in contemporary society, especially in the field of education. It often comes to mean little more than faddish. A community action curriculum such as Alice Lloyd is relevant in a more profound sense. It poses the question, "What do we expect from an Appalachian student?" Certainly we expect the same level of literacy and intellectual sophistication that is possessed by any college graduate. But in addition we expect him to be a person who is aware of his responsibilities as a citizen of an area critically in need of economic and social development and to possess skills that will aid in this task.*[25]

Just as campus-based resources are too often ignored, so are the resources of other campuses often overlooked. An inter-campus exchange of students can be among the most successful components of an experience-based curriculum. Students from an urban setting might attend college for one year in a rural community. Exchanges could also be established between predominantly white and black colleges.

The final two activities, domestic and international field studies, involve students primarily as observers, scholars or researchers rather than as employees or apprentices. A student might spend three months studying the history of a small English town or pollution in a large American city. Kalamazoo College has made extensive use of both domestic and international field placements. Students at Kalamazoo remain on campus for course work during their freshman year, but become involved in off-campus career service experiences in the spring quarter of their sophomore year. During their junior year they study abroad and return to campus in their senior year to complete a senior thesis. Kalamazoo College actively recruits the assistance of many different agencies, including the American Field Service, the YMCA, the Xerox Corporation and the American Dental Association.[26]

In establishing field studies programs, the faculty should provide students with an adequate orientation to the experience before they enter it, and with both time and resources to assess the experience once it is completed. One must be sensitive to the significant transitions that often occur when students are entering or learning an experimental program. Students need interpersonal support, a conceptual framework or a safe environment in which to try out new ideas and behaviors.

For example, a group of students who are visiting Russia on a six-week tour spends three days together before the trip begins. They discuss their expectations about the trip, get to know each other, practice speaking Russian—in general, prepare themselves psychologically and technically for the trip. Other students who are preparing for the same experience serve as an effective support group for each student. A faculty member and/or guide also provides valuable pre-trip knowledge and support. At the end of the trip, the students once again spend several days together, on or near campus, in order to make a gradual transition back to "real-life." The student can use this time to reflect on and discuss the trip, and perhaps most importantly, to draw out the implications of this experience for back-home aspects of her life. If a student re-enters her old life pattern without this reflective period, then she is likely to lose some of the most valuable learnings from this often costly (time, money, stress) experience.

A field study program of almost any variety involves extensive planning and coordination, as well as occasional expenditure of funds. For this reason, many colleges and universities make less use of these programs than the faculty would like. Inter-institutional cooperation can be valuable in this regard. Several colleges can develop a consortial arrangement for the identification and coordination of field placements, or for the creation and maintenance of a field station. The College Center of the Finger Lakes (CCFL), a consortium of liberal arts colleges in New York, has established and run two field stations, one at Seneca Lake in New York State and the other on San Salvadore Island in the Bahamas. These stations have been used for fresh water and marine biology, ecology and anthropology projects. The Bahamian program is also used for cross-cultural studies and the training of nurses. None of the four CCFL colleges could have afforded either of these stations without the consortial assistance of their sister colleges.

Virtually all experience-based programs inevitably require that students take primary responsibility for their own learning. A faculty member or supervisor rarely has control over all of the experiences which the student confronts. Furthermore, the faculty member or supervisor is usually not present during much of the experience. Experiential curricula must, therefore, make extensive use of student-based procedures to which we now turn our attention.

STUDENT-BASED CURRICULA

All college curricula purport to be student-centered in the sense of being responsive to student needs. In spite of this, few colleges allow students significant control over the substance and process of instruction. One of the major—though perhaps short-lived—outcomes of the student-led disruptions in the later 1960's was an increase at some colleges in the amount of control which students have over the curriculum.

At least five different approaches have been taken to increase student participation in curricular matters: 1) students are given increased freedom in the selection of their own course of study from among traditional offerings; 2) students engage in individualized learning through tutorial or independent study programs; 3) students draft individualized learning contracts in association with faculty members or mentors; 4) students work together with faculty, on a yearly basis, in the formation of a new curriculum which is responsive to the needs of both parties; and 5) students initiate and run their own courses or curricula. Following is a brief description of each approach.

In the later 1960's, many colleges and universities reduced the size of their core curriculum and decreased the number of required courses in most major fields. These curricular decisions—which in some instances are now being reversed—were intended to provide students greater freedom in the selection of courses and in the formulation of unique programs of study. This step toward a student-based curriculum does not require many additional resources in terms of either time or personnel. On the other hand, the faculty debates over the initial reduction in requirements have consumed a great deal of faculty time and attention, as each academic department attempts to preserve its own share of the core curriculum or its own major requirements.

As an example of this type of curricular approach to student-centered education we can point to Raymond College (one of the cluster colleges at the University of the Pacific). Students at Raymond have an almost unlimited choice of courses:

> *The only stipulation made is that at least 12 of the 21 courses required for graduation be in four areas—environment, society and the community, arts and media, and human development and the self*

> *. . . Freshman students at Raymond participate in the formation of . . . small study groups to investigate various topics dictated by faculty and student interests.*[27]

While this approach to a student-based curriculum does provide students with greater freedom, one wonders what the effect of this freedom will be. First, the courses from which the student must choose have usually not been changed. Second, if no institutional resources have been identified or developed to help students deal with this freedom, then it will rarely serve its intended purpose. Students will continue to pursue traditional courses of study or will wander aimlessly through the curriculum. An effective student-based curriculum must allow students to influence the content of the curriculum, yet must also offer resources to help students plan for the course of study they will undertake.

The second approach to student-based curricula is the tutorial or independent study program.[28] While tutorials and independent studies are different, and for many reasons should not be grouped together, they share certain similarities. First of all, both modes are attractive to faculty and fit into a traditional model of excellence in teaching and learning. Secondly, both modes allow students to influence the content of their studies and provide for faculty guidance and supervision. These two modes tend to diverge, however, at the point of implementation. Independent studies programs usually require more faculty time than do tutorials—provided the tutorials are conducted in small groups. One-on-one tutorials may be more time-consuming than independent study programs. In the case of both independent study and tutorial programs, most colleges cannot afford the low student/faculty ratios that are required to sustain these activities. Many colleges reserve this type of program for advanced-level students or students who have demonstrated exceptional academic attitude (for example, Austin College). Other collegiate institutions (St. Olaf College and Hofstra University) have established separate experimental colleges which offer tutorial or independent study programs to only part of the total student body. Given the inability or unwillingness of many students to operate as independent learners (at least in formal educational settings), the selective use of a tutorial or independent study program is usually not only appropriate, but also acceptable to students who are not participating in the experimental college.

A variation on the tutorial and independent study approach—individualized learning contracts—often yields similar results, though usually with the expenditure of less faculty time.[29] The individualized learning contract is being used extensively at several of the newer and more innovative collegiate institutions in this country: the University-Without-Walls (Union for Experimenting Colleges and Universities), the New College at the University of Alabama and Empire State College. Since a rather extensive description of the New College program is provided in Appendix A, I will not dwell on this approach, other than to make two observations. First, the learning contract can be effectively used as a tool not only for learning by students but also for learning and professional growth of faculty and administrators, especially when used in conjunction with a professional growth contract.[30] A portfolio enables the student to document his academic achievements through a variety of non-traditional means, and in this way, enables him to more readily and responsibly pursue a unique course of study. An example of a portfolio procedure (the "learning log") is contained in Appendix A.

The fourth approach to student-based curricula is also found in several of the newer and highly innovative colleges (Evergreen State College, Johnston College, and Thomas Jefferson College). Students and faculty meet each year to plan the curriculum for the following year. The curriculum is constantly being renewed and updated. It becomes responsive to the legitimate learning needs of students and faculty, ensuring that both parties find the teaching-learning enterprise to be interesting and enriching.

A primary disadvantage of this approach to curricular design is a lack of continuity from year to year, and the consequent inability of either faculty or students to make full use of the resources that have been assembled at the college. At Evergreen State College, for instance, there are a sufficient number and variety of relevant courses offered in any one year to establish an exceptional human ecology or futuristics program; yet, since the curriculum is constantly in flux, there is no basis upon which such a program might be established or coordinated (see Appendix B).

A second drawback is the inability of many students to survive, let alone flourish, in this kind of educational environment. Most students are accustomed to traditional classrooms in which teachers dictate the direction of the course. The responsibilities which must be assumed by students in a student-centered curriculum often generate a great deal of discomfort and confusion among students who have successfully adjusted to a more traditional setting. Institutions such as Evergreen, Johnston, and Jefferson are designed for a certain type of student and are in this way uniquely elite. Arthur Chickering has identified four types of people who are inclined to find this student-centered curriculum attractive:

1. Young persons who want to take major responsibility for planning and carrying out their own educational programs;
2. Working people who have completed courses offered by their employers or unions, and veterans who start from studies undertaken during military service;
3. Older or retired persons, pursuing new interests or new careers, who want further education which suits their particular interests and which recognizes the experience and knowledge they already have;
4. Men and women of all ages who must pursue education while continuing substantial employment in or out of the home.[32]

While innovative, student-centered colleges such as Evergreen, Johnston, and Jefferson should be admired and financially supported, they should not necessarily be emulated by other colleges or universities that wish to move toward an institution-wide, student-centered curriculum. As in the case of tutorial and independent study programs, these curricular models will usually be more useful in the design of special, experimental units in a college or university.

The final approach which I shall consider departs more radically from the norm than do any of the other five, yet it can still be used in the design of a student-based curriculum: students are given sole responsibility for the design, instigation and implementation of new courses. This approach has been used extensively in the formation of student-run free universities, satellite campuses, and alternative colleges. During the later 1960's and early 1970's, these programs flourished, usually in association with a major college or university. In several instances, the free universities were established with the full support and even assistance of a formal institution.

The free university movement died in the mid-1970's largely as a result of factors (increased costs, declining enrollments) that have also led to the demise of more traditional institutions. The decline in active political resistance and the inevitable decline in voluntary energy and creativity also contributed to the demise of this movement. The free universities, nonetheless, have left their mark, and we should not ignore the lessons that can be learned from them: First, it is quite clear that students can plan and conduct courses that are substantial and valuable to other students (and to the student offering the course). Second, these courses can often profit from the contributions of a faculty member. If she does not dominate the course, the faculty member provides a broader perspective on the content of the course than the teacher-student. Third, the free university movement demonstrated that significant creative energy and expertise will be invested by students in an educational experience over which they have some control.

At several institutions, a free university type model has been incorporated directly into the curricular planning process of the institution. Students are often allowed to determine courses that will be taught and even teach some courses during an inter-session period. At some collegiate institutions, such as the University of Oregon (SEARCH), separate programs have been set up for student-initiated and run courses.

At an institution-wide level, Hampshire College offers students considerable freedom in planning their own personalized curricula:

> *. . . students are expected to devise their own program of classes, make up their own tests, and pace their own degree progress. To implement these expectations, required courses have been eliminated, most classes use the seminar format, and students receive no specific reading or other assignments unless they request them. Performance is evaluated on a pass-fail distinction rating in all courses. During the January interim, the student writes a report of his educational experiences that emphasizes self-evaluation and self-discovery.*[33]

In the early 1970's, students at Hampshire College planned a year-long course on the Nazi extermination of Jews in Germany. The content of the course was determined by students, and most of the course materials were selected by students.

However, students are not simply left alone at Hampshire, but must instead work their way toward the independent status that is described above. The student moves steadily toward greater independence through three sequential divisions: Basic Studies, Concentration, and Advanced Studies. The first division introduces students to the aims and methods of liberal education at the college, giving them limited but direct and intense experience with disciplines in all four schools of the college. Rather than using the traditional survey course, Hampshire makes use of seminars that stress the notion of inquiry.

Under the concentration division, students develop strengths in a specific field, while continuing to gain breadth in several other fields. The Division of Advanced Studies enables the student to design and complete an independent study project or original work. In addition, the student participates in one or more integrative seminars.

VALUES-BASED CURRICULA

American higher education was dominated by the church-related liberal arts college until the Second World War. As a result, most of American higher education readily incorporated religious values. Since World War II, however, public higher education has become more prominent and values-oriented education less prevalent. This trend was undoubtedly accelerated by the technological and scientific emphasis induced by the American reaction to Sputnik.

In the mid-1970's, this trend toward technological and "value-free" education has apparently been reversed. Political and quality-of-life issues are highly salient for most faculty, administrators, students and parents. This new quest is perhaps most dramatically portrayed in Pirsig's work, *Zen and the Art of Motorcycle Maintenance*. Values-oriented education has once again become a viable entity in the design of collegiate curricula.

One can differentiate between three approaches to values-oriented education: 1) values-inculcation or reaffirmation, 2) values-expansion, and 3) values-clarification.[34] The first of these approaches was taken by many church-related colleges before the Second World War and continues to be a dominant mode in the contemporary college that emphasizes a strong Christian commitment. All three approaches have been taken in the humanistic education movement.[35] I will briefly consider each approach.

During the past five years, Christian colleges have generally prospered in large part because of their commitment to a specific values system and life style. Students and parents know what to expect from these institutions. They can anticipate an integration of faith and learning in classroom and dormitory. Students who come to these colleges usually are already committed to the values of the institution; hence, their education primarily consists of a reaffirmation or strengthening of the values they already hold. Not all students who attend these colleges exhibit an equally strong commitment to the values and life style of the institution. As a result, these colleges usually require attendance at chapel and enforce strict codes of conduct. These regulations are generally imposed to establish particular habits and standards among the students and to provide students with a means for expressing their religious commitment and discipline.

Other colleges and universities espouse and inculcate different values or paradigms (see Halliburton's discussion of the relationship between values and paradigms in Chapter Three). Humanistically oriented institutions, such as Johnston College and the California State College at Sonoma, seek student commitment to a specific set of values. As William Bridges has noted,[36] humanistic educators encourage students to value all aspects of their person—emotional as well as intellectual. Furthermore, these educators are themselves expected to serve as models of this integration between feeling and thought. In a similar manner, institutions which are committed to ecological education (the University of Wisconsin at Green Bay and the College of the Atlantic) inculcate a specific set of values—primarily with reference to the conservation of resources.

Some colleges and universities are committed less to the inculcation of specific values than to an expansion of the student's current value system through experiences in new and different physical or social environments. Many international studies programs are initiated primarily for this purpose. Presumably, students who are exposed to a different culture will explore and may even embrace some of the values in this culture. Similarly, many humanistic education programs seek to expand the value system of students by introducing them to experiences (fantasy, interpersonal sensitivity training, meditation, role-playing, etc.) that challenge their current perceptions of self, others and the environment. Other humanistic programs are designed to expand a student's appreciation of a specific work of art or awareness of a single world perspective. Whether labeled "transvaluing"[37] or "values expansion,"[38] effective teaching of literature, art and the other humanities will resolve the artificial distinctions which are usually drawn between the values of daily living and the values associated with aesthetic and philosophical appreciation.

The wilderness and survival training programs that are now being offered at an increasing number of institutions (most notably Prescott College—described in Appendix A) also seem to be directed toward values-expansion. Students who climb mountains or ride rafts down rivers are less concerned with learning how to perform these tasks, or even with learning about the environment through which they are journeying, than they are with personal and interpersonal learnings that concern their physical and affective, as well as cognitive, definition of self. A passage from a recent Prescott College bulletin articulates these learning goals:

> *Outdoor action is a vehicle for personal growth and group involvement. The risk and stress of the wilderness can bring about mutual*

> *trust and dependency upon others. The wilderness is an exacting teacher; mistakes can be costly and a person learns about himself, about his ability to think and act decisively. Especially important is the fact that achievement is measured only against a person's own potential and students know by their approach, attitude and performance whether they have succeeded or failed, and to what degree. Self-reliance grows out of successfully working through difficult situations and the experience of the wilderness has a lasting value; what a person learns there is transferable to other areas of his life.*[39]

The third approach to values education and values-clarification has gained increased popularity and acceptance through the work of Sidney Simon and his associates,[40] though this work has had a much greater impact on primary and secondary school education than higher education. This model of values-education encourages students to more fully understand and examine the implication of their current values, rather than investigate new values. Typically, the student is first asked to make a series of decisions about alternative courses of action, then asked to examine the values that seem to be represented in these decisions. Values are explored with reference to career decisions, marital relations, friendships, religious commitments, and political preferences. Values-clarification can be fully integrated into almost any college curriculum. In any specific course, the faculty member and students can explore the values that underlie the area being studied, as well as ethical issues that relate to the use of ideas, skills or attitudes that are presented in the course.

At Albion College,[41] a program has been initiated for freshmen which seems to be oriented toward values-clarification. The "Basic Ideas" program at Albion helps students find answers to such questions as: Who am I? Where am I going and why? What are the values that make life worth living and a society worth fighting for? How can I cope with all the pressures exerted by my parents, my peers and my environment?

> *One of the primary aims of the program is the cultivation of a habit of mind to think critically about one's self, the natural order and values. The point is not to provide students with definitive answers, but to help them to identify and to understand the problems of contemporary society and to formulate ways of acting responsibly to solve them.*[42]

The Albion program resembles that offered in many of the heritage-based curricula that are described above. Literature from many disciplines is read and discussed by the students. Films, tapes, plays, panel discussions and guest speakers are also presented. The demonstrated success of the program may be attributable not so much to its methods and content, as to the rather extensive preparation that goes into the program each year. The program staff members meet for two weeks each summer to plan the material to be used, to read on their own, to meet with interested faculty in other disciplines on and off campus, and to exchange points of view.[43]

A values-oriented program also is now being considered at St. Olaf College. A description of this proposed program is included in Appendix A. The St. Olaf program, like the Albion program, includes a training program for faculty. Such a program seems quite appropriate, for faculty must clarify their own values before asking students to clarify theirs. Several current faculty development programs that emphasize values-clarification could be of use to a college that is considering a values-oriented curriculum.[44]

FUTURES-BASED CURRICULA

Most college catalogues at some point state that the institution is firmly committed to preparing students for the future. Furthermore, most college administrators and faculty members would readily agree that a college education should prepare a student for conditions and problems of the future, rather than those that exist in the present. Yet, of the eight curricular models which we have described, this one has been least adequately developed in American colleges and universities.

Futuristic curricula tend to be resisted because of our inability to predict what the future will actually be like. As H. Wentworth Eldredge has noted, ". . . the Achilles heel of futures studies and futures education is . . . social forecasting (expecially value forecasting) about which little is known and little is being reliably learned."[45] If we do not at least attempt to identify one or more possible or undesirable images of the future, however, we are left with an untenable working hypothesis that the world of the future will operate essentially as it has in the past or present. A thoughtful, though admittedly fallible, attempt to address various issues of the future is certainly more responsible than either a neglect of the future or a thoughtless assumption that the ingredients for coping with the future are somehow contained in a traditional liberal arts education.[46]

Future-responsive curricula have been adopted to varying degrees at many institutions. In 1974, Eldredge[47] identified more than 500 futures courses offered in American higher education since 1968. Yet few comprehensive programs now exist. Furthermore, the total number of futuristics courses that are offered may be on the decline. Since many of these courses have been specifically related to either Tofflerian "future shock" or human ecology, they are susceptible to the rise and fall of student interest in these areas.

The University of Massachusetts has developed one of the few comprehensive futuristics programs. David Schimmel directs a program on global survival which focuses on futuristic problems of an environmental, political and economic nature. This program was designed to reflect the complex interdependencies between various world systems. Schimmel and his colleagues hope to create a "global literacy" for students who must live in a world that is becoming increasingly small. A similar program has been established at Farleigh Dickinson University.

At Whitworth College, a particularly intriguing approach to futuristic education has been used. Some of the Whitworth students are involved in a program entitled "Diet 1985." As part of this program, students eat meals (prepared by the campus food service) which reflect changing economic, political, ecological and nutritional conditions of the future. Students test food that is new, simple, nutritious, inexpensive and/or available from local sources. Whitworth College also offers a senior-level honors seminar on "The Shape of the Future." This seminar serves as a pilot project for a more ambitious plan which will place a futuristic perspective at the core of the Whitworth College curriculum. Making use of his previous experience with the Apollo space program, President Lindaman lends vision and support to this significant new curricular venture. Another noteworthy project is the course on "America and the Future of Man" offered by newspaper at the University of California (San Diego campus). This course enrolled 5,000 students during the 1973-74 academic year.

Though we can identify only the fragments of a futures-based curriculum at the present time (also see Halliburton's discussion of future-oriented curricula in Chapter Four), this model may become prevalent as more members of the higher education community, as well as students and parents, recognize the need for skills, knowledge and attitudes that are responsive to changing and increasingly complex problems of our society and world. Willis Harmon[48] has observed that the profound transformations that must take place during the coming decades will undoubtedly challenge not only the structures of our society, but also our basic image of man and his values. The American higher education community must create more programs that will directly address these transformations.

This consideration of futuristic curricula brings us full-circle from our original consideration of heritage-based curricula. Although these two models offer opposite temporal perspectives, they both enable a student to gain a broad perspective on the social, technical and cultural problems that we now face. We will undoubtedly need a view of both the past and future in order to survive and, hopefully, thrive in the world we now face as educators and citizens of a global society. A diversified higher education community which incorporates all eight of the curricular models that have been described can significantly contribute to this enormous task.

NOTES

[1] Daniel Bell, *The Reforming of General Education* (New York: Columbia Univ. Press, 1966).

[2] Arthur Levine and John Weingart, *Reform of Undergraduate Education* (San Francisco: Jossey-Bass, Inc., 1974), pp. 21-25.

[3] Ann Heiss, *An Inventory of Academic Innovation and Reform* (Berkeley, Calif.: Carnegie Commission on Higher Education, 1973), p. 9.

[4] Brown University, *Bulletin of Brown University: 1975-1977* (Providence, Rhode Island: Brown Univ., 1975).

[5] Brown University.

[6] Brown University, p. 377.

[7] David F. Anthony, "International Education: The Challenge to the Liberal Arts College," *Liberal Education*, 53 (1967), 484-496.

[8] Heiss, p. 8.

[9] Heiss, p. 21.

[10] Jon M. Veigel, "An Interdisciplinary Environmental Program for Undergraduates," *Liberal Education*, 61 (1975), 460.

[11] College of the Atlantic, *Catalogue of the College of the Atlantic 1976-1977* (Bar Harbor, Maine: College of the Atlantic, 1976), pp. 3-4.

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4

Curricular Implementation

By JACK LINDQUIST

Jack Lindquist is Director of the Kellogg Use of Innovations Project, an endeavor of the Kellogg Foundation and its funded projects to share innovative program learnings with other institutions. Jack is an experienced consultant, researcher and writer concerning the formulation and implementation of new programs in undergraduate education and professional development. He is located at the Center for the Study of Higher Education, University of Michigan.

Chickering, Halliburton and Bergquist make clear not only that curriculum development is an increasingly important task in liberal arts colleges, but that many promising curricular models now exist. Yet, a real need and a good example are not enough. Many are the deans or curriculum committee members who have had both concern and vision but have not managed to effect meaningful change in the practices of colleges. Change certainly is thrust upon them by external pressures; but purposeful development based on internal initiatives is quite another matter. That is an enormously difficult undertaking about which we only now are beginning to gain systematic understanding.

In this part, Jack Lindquist shares with us the fruits of recent research and practice concerning academic reform and innovation. The practical tips on these pages derive especially from the four-year Strategies for Change and Knowledge Utilization Project initiated by Chickering, directed by Lindquist, and funded by the National Institute for Mental Health.

Lindquist's approach to the process of curriculum development is deceptive in its apparent simplicity. He recognizes that approaches make the naive assumption that all it takes to introduce curricular change is a well-evidenced and logical proposal presented according to the traditional governance protocols. He starts with that assumption but then incorporates techniques from defusion of innovations practices which recognize the social character of organized life and from organization development practices which recognize the political and emotional aspects of change. The result is a promising hybrid, especially developed to bloom in colleges and universities. It requires considerable skill in working with information and working with people. But it can make the difference between a promising curriculum idea nobody wants and an implemented program.

CHAPTER 7

Obstacles to Curriculum Development

INTRODUCTION

The new president of a small liberal arts college had a dream: a form of undergraduate education which devoted personal attention to the growth of each student. The president felt the college presently focused more on jumping traditional academic hurdles than on discovering and strengthening student interest and abilities. A more personalized, humanistic education might halt enrollment declines; moreover, it was the kind of education the president valued.

The president also believed in participatory democracy. Instead of exerting her authority to launch humanistic education, she initiated a year-long self study and planning effort aimed at involving most of the college in designing the institution's future. A coordinating committee and numerous task forces began to work. Eventually, they issued a plan which struck the president as political compromise between liberal and conservative faculty groups, but attached no real change to a promising vision of a viable future. This outcome is a familiar one in blue ribbon self-study and planning efforts, as Dwight Ladd has observed.[1] The president invited several vice-presidents to join her in drafting a revision which, after securing trustee approval over the phone, she announced to the faculty after Christmas vacation in 1971 as the college's "New Direction." The language of the revision suggested the president's educational preferences, though it was hard for anyone to be sure from the document just how personalized education was to happen. After a year's struggle to gain faculty acceptance and cooperation, the president and her cabinet resigned. The grand dream did not happen.

Why did the new curriculum fail? Everyone had a theory. Some faculty members said the president's ideas were too ethereal, too hard to bring from the clouds to earth. Other faculty members felt the whole planning process was a game the president devised to disguise her intention to do as she pleased, and they resented the charade. Some administrators blamed a few senior faculty members who seemed set on protecting their power and traditional teaching against all interference. Outside observers concluded that both faculty and administration, for the most part, were well-meaning but were not skilled in the kind of open collaboration required to make participative planning work.

Upon one point everyone agreed: curriculum development is not easy. Researchers find that, beneath new names and new formal configurations, real changes in collegiate learning and teaching practices are rare; and those that happen tend to be the result of external pressure rather than purposeful development efforts within colleges and universities.[2] We do not change. We get changed, despite compelling needs such as Chickering elucidates and promising alternatives such as those presented by Halliburton and Bergquist.

Why are colleges and universities so resistant to curriculum change, even when need and solution are apparent? In a nutshell, they fail to develop because the obstacles to change are at least as great as the resources for change. This chapter briefly highlights some of the major obstacles to curriculum development. It also examines the shortcomings of major strategies for curriculum development.

INERTIA AS A BARRIER

Among barriers to doing new things, perhaps the greatest is inertia. Our time is consumed trying to run the curriculum already in place. Our formal structures and policies are geared to maintain what we have been doing. Almost all the budget is devoted to existing practices. The curriculum acts like an eighteen wheel semi-truck with full load rolling down the Bakersfield pass. Once it gets moving, there is almost no stopping it. The most skillful and experienced driver operating the most advanced braking and steering system still must contend with the fact that the great weight of that truck has its own momentum. College leaders, like truckers on steep grades, have all they can do to keep their institution on the road. Individual faculty members are just as consumed fulfilling current teaching, research, and service obligations. Proposing curricular change is like suggesting to that trucker gearing down the Bakersfield pass that he (or she, as times change) might want to chat about a new route.

TRADITIONAL SOCIALIZATION

We do what we have been doing not only because its demands consume us but because we have been socialized to do that and not other things. Most academicians attended colleges and universities which organized curriculum in the same disciplinary compartments, had similar depth and breadth requirements, taught in similar classrooms and laboratories by similar methods, used similar texts as primary learning resources, graded on the same normal curve, and kept in mind the same Harvard/Amherst image of excellence. There are many differences among colleges and universities, but the curriculum is not one of them, once we penetrate beneath surface rhetoric. Few colleges deviate from the standard fare.

If we were purged of our experiences in the American academic way, many of our practices would be questionable. Why major in "English" which is only one language and literature (albeit a rich one) among a wide array represented in our own American heritage; which is an esoteric career restricted to professors of English; whose adherents often use it as an elitist means to be one-up on poor unfortunates who do not know obscure quotations? If it is the recognition and appreciation of the beauty and wisdom embodied in great literature which is the purpose of English, why not teach those things? If it is "critical thinking" or "creativity" or "effective written expression" which is the purpose of English, why not have departments and majors in Critical Thinking, Creativity, and Exposition? Why must the learning we approve for college credit occur only in formal classes where the Eleanor Roosevelts and the Beethovens we study as college-level thinkers would fail to receive such credit?

Certainly one answer to such questions is that our curriculum has stood the test of time. There are fine arguments in favor of English and in favor of restricting college level learning to college classrooms. Another answer, however, is that this is the system we learned, and this is the system we chose for our life's work. We have been indoctrinated in traditional curriculum, and we have been successful in that system. Our strongest inclination, therefore, is to do likewise to newer generations. To question our curriculum is to question our own experience and status.

INADEQUATE INFORMATION

Even if we could stop our pell-mell work and bring ourselves to challenge our own socialization, we would find little information to enlighten us. Few colleges know their students very well. Admissions data rarely are useful to faculty or put in their hands. Professors rarely have systematic means for discovering the learning needs, objectives, and styles of the students in their classes. How students learn, or how long they retain what we try to teach them, is a mystery to most college faculty and administration. Nor are alternative curricular practices common knowledge around campus. Even news of legislative budget cuts or shifting educational needs among the population from which the college draws its students is weakly connected to the faculty members who might adjust their practices in response to changing demands. No profession as dedicated to gathering and sifting systematic information operates on less than does a college faculty. Yet, without strong evidence that current practices need changing, few will (or should) feel a strong need to develop new curriculum.

TRADITIONAL STRUCTURES AND REWARDS

Compounding the problems facing curriculum developers are traditional structures and rewards. Colleges are organized into academic departments which provide jobs and promotions to those who further departmental interests. These departments are isolated from one another so that differences are accentuated. The sciences are off in one building, the humanities in another. Furthermore, the administration sits in a separate organizational and physical structure than the faculty, while students have their own government and dwellings. Such isolation breeds suspicion. "They" are out to get "us." Our payoffs lie in furthering our own interests instead of theirs. Any curriculum development which needs to cross these boundaries, as many new approaches do, must contend with the isolation and competitiveness produced by traditional academic structures and rewards.

FEAR OF THE UNKNOWN

Underlying several other obstacles to curriculum development is fear of the unknown. This new curriculum may not work. I may not be able to do it. Our department may lose students or status. It may cost more than we can afford. In the long run, it may hurt my career. What we know is not nirvana. The current curriculum has its problems, but we have learned to endure the *status quo*. We do not know until we try the new curriculum whether we can endure it; by then, it may be too late.

The list of obstacles to curriculum development could be expanded easily, but these five barriers will do. Inertia, socialization, weak information, traditional structures and rewards, and fear of the unknown are enough to thwart most attempts at reform.

How do we deal with these obstacles to development? Seven general strategies for curriculum improvement or change are familiar parts of most college campuses: executive fiat, faculty governance, incremental development, blue-ribbon self-studies, academic planning, management systems, and funded projects. Each has serious limitations.

EXECUTIVE FIAT

"If I ruled the world," goes the song. The president and dean are *supposed* to be the curriculum decision-makers, according to institutional charters and by-laws. They are blamed by trustees and faculty alike when educational practices are not working. They often have the best information regarding institutional problems and potential solutions. Why not go ahead and exert executive authority.

Why not, indeed. They should act to improve their institution. That is their job. The real question is, act how? Fiedler's synthesis of leadership research identifies two conditions under which executive fiat works.[3] One is a situation of high respect and trust in the leader, a tradition which says the leader should decide for us an issue about which the executive is most expert, and a desire by the leader to do what organization members want anyway. Some executives of developing colleges and universities in the 1960's had such conditions. They were brought in because their academic reputation and expertise were very strong. They found themselves in institutions used to dominant leaders. And they wanted what most faculty wanted and what attracted prestige and financial support: to build disciplinary departments, raise salaries, lighten teaching loads, and emphasize graduate education and research in order to become the Harvard of northern Montana. Executives in certain small, church-related colleges sometimes enjoy the same conditions for different reasons. They may have been esteemed by faculty as leading ministers. A college may take on the authoritarian, "father decides," norms of some churches and families especially if there is high agreement among faculty and administration regarding the Christian mission of the institution. Also in some new community colleges, respected and expert leaders are expected to take charge and may enjoy general faculty support for egalitarian teaching and service objectives.

The second condition which permits executive fiat to work is one of great crisis in which organization members feel they cannot get out of this Sea of Despondency themselves. Some messiah must lead them out; or the highest authority must decide because they will never agree among themselves or accept any lower level decision. Some colleges and universities faced such turmoil in the late 1960's, and more will face crisis in the 1980's as costs become staggering while the supply of late adolescents seriously declines.

These two conditions, however, are not common in today's colleges and universities. There are few new or rapidly expanding institutions, prime places for strong leadership. Faculties are becoming older and more entrenched, with elaborate governance or union structures to ensure their say in institutional decisions. Decisions regarding curriculum grow increasingly complex and rely on expertise beyond that held by executives. Competition among institutions for available students and other funding grows more acute, and traditional models of academic excellence are so expensive or unsuited to new student needs, that leaders do not have the luxury of leading in directions traditional faculty want to go. Very few institutions have the tradition and endowment to sustain the highly expensive programs of the past. And although executives may sense a crisis brewing, most faculty members are not in a position to receive information they trust regarding financial and educational problems, nor is that their formal responsibility. There rarely is enough trust or enough felt crisis that faculty will allow the dean or president to change curriculum practices for them. And just as rare is enough executive control to do it anyway.

FACULTY GOVERNANCE

Countering executive decision making in most colleges is a faculty governance system by which professors exert influence, especially in academic matters. Every college has committees concerned with curriculum. There are departmental curriculum committees, divisional curriculum committees, school curriculum committees, educational policies councils, senates, and subcommittees all along the way. Each lower body reports to those above it. Most bodies are faculty-dominated. The advantages of this kind of governance are that faculty can regard it as their legitimate decision making system, that it involves lower level units, and that it benefits from faculty expertise.

The disadvantages of faculty governance, however, are legend. There are so many levels to work a proposal through that only the most determined advocates survive the journey. Each new level may be ignorant of the worth of the proposals it gets, so study and debate often are repeated many times. Committees usually meet for short periods weekly, so not much business gets done at any one sitting. Many committees are review bodies for lower committees, so their agendas are rarely their own. Faculty members are trained to be experts and critics, so their committees spend much time airing member views. Because faculty members have fairly similar and narrow academic backgrounds, those views often do not include all the expertise and experience the committee needs; but it is hard to convince them of that. Few college committee members are skilled at making task groups efficient and effective. Committee or senate members represent various interest groups, so a key dynamic (admitted or not) is to protect and enhance personal and group interests, whether or not those interests seem best for the institution or its students. Because these bodies are comprised of more faculty than administration, a whole new interest must be captured if the proposal is to be supported by the president and board. As one advocate of reform coined the process which defeated his proposal, normal governance is most likely to produce "death by terminal committee."

INCREMENTAL DEVELOPMENT

Incremental development is another common approach. In most colleges and universities, schools and departments submit annual budgets for executive approval. Sometimes faculty are involved, especially at the department level, and sometimes not. Because curriculum costs money, this process involves curriculum development. A department or school could submit an annual budget incorporating financial support for curriculum innovation or reform. Usually, however, normal budgeting is an act of requesting and reviewing incremental expansion of the *status quo*. It asks for slightly more support to do what is already being done this year. If times get hard financially and something must be cut, the normal budgeting formula is that the most recent and most nontraditional program or staff is the first to go. Thus have innovative programs throughout the country been eliminated in recent years. Far from a means for developing and reforming curriculum, normal budget procedures are a means to reinforce whatever programs are most entrenched.

Incrementation can occur in teaching practices as well as budget. Curriculum gets changed as new professors teach the same courses in ways which reflect their special interests or skills. External pressures may result in a larger concern for blacks, Chicanos, and women in American history or new courses on consumer rights in business and law schools. A professor may change from teaching mainly by lecture to teaching mainly through field study groups, thereby shifting the learning process of students considerably. Such incrementalism, if supported by an active faculty development program, can slowly change the curriculum. And it is consistent with faculty desires for autonomy. One problem is that a coherent set of learning experiences is unlikely. Professor X does one thing and Professor Y another, with the poor student caught in the middle. Another problem is that changing the curriculum, individual faculty member by faculty member, is a slow process. A third weakness is that professors usually are not supported by reduced workloads, money for materials, expert consultation, nor professional rewards for such changes. Indeed, they often are penalized by having to take time from more formally rewarding pursuits to attempt a new course or teaching approach.

BLUE RIBBON SELF-STUDIES

A fourth approach to curriculum development is for the executive administration (or, more rarely, the faculty) to launch a Blue Ribbon self-study and planning effort. Top faculty, administrative and student leaders are selected to serve on a coordinating body. Numerous task forces are given subassignments. Often, a coordinator is provided release time and staff support. Local goals and practices are studied and priorities are set. Alternative practices and literature are examined. Wide participation is sought in the formulation and review of proposals. Often, the institution stops business as usual to consider proposed changes.

Blue Ribbon self-studies have the advantage of administrative initiative and broad involvement. They often have time and staff to seriously study what needs to be done. Because respected leaders of both faculty and administration are involved, proposals carry some esteem and clout. In many ways, such projects avoid the problems of executive fiat and faculty governance.

Dwight Ladd presents several case studies which dramatize the limitations of Blue Ribbon planning efforts.[4] The process of generating and reviewing proposals is slow and demanding, for it is a lot of work to involve many people in comprehensive self-study and planning. Eventually, proposals must pass formal governance bodies, and there they get picked to death by vested interests. Final decisions often represent little commitment or energy for implementation, for they are compromises nobody wants but everybody exhausted themselves getting. Some minor changes usually do emerge from such approaches, but they hardly seem worth the human and financial costs. And by the time they move into implementation, a new president or senate or crisis has appeared with new agenda items.

A partial exception to this sad outcome, Ladd finds, is the small college. Where there are few enough people with strong enough common concerns and institutional identity, meaningful consensus is possible in a reasonably short time. Of course, even in such places, consensus may be to make little change, no matter how necessary, as the opening example in this chapter reveals.

PLANNING BODIES

Another way to combine initiative and involvement in curriculum development is the academic planning committee. It, like the Blue Ribbon affair, is aimed at future needs and objectives. It often includes both faculty and administrative leaders. In some instances it enjoys staff support from institutional research and planning officers as well as release time for its members. It has the advantage over Blue Ribbon projects of being an on-going body rather than a one-shot extravaganza. Academic planning councils are a fine idea, in the abstract.

In reality, several problems appear. In a financial pinch, one of the first things some institutions cut is the planning staff and release time of planning committee members, as if to say systematic planning is less important when we are in trouble than when we are prospering. Some planning bodies cannot gain full use of institutional research either, for it traditionally does the beck and call of administrative officers, not governance groups. Indeed, planning councils often find themselves in competition with administrators who are designing future budgets with little regard for the priorities being set in planning. "Let the faculty play its futures game; meanwhile, we've got to get out the budget!" I observed one "Educational Policies Council" which met weekly right across the hall from the "Long-Range Budget Committee," and n'er the twain did meet. Academic planning committees often find themselves in competition with other governance groups as well. In one college, a curriculum committee and an academic planning committee both formulated new curricular programs, much to the consternation of each other. This competition seems to occur, in part, because planning bodies are add-ons to faculty and administration decision systems which keep on rolling in their established ways. When planning groups do catch the attention of other decision groups, they quickly find their agenda full of other groups' proposals, thereby eliminating their ability to study and plan the future. One academic planning officer calls this phenomenon "The garbage can approach to planning," reminiscent of Cohen and March's garbage can theory of governance in which every decision event is regarded by institutional groups as an opportunity to throw their favorite vested interest into the hopper.[5] Finally, planning bodies usually are no better than other committees at the process of task group work. Powerful faculty members and administrators fence rather than collaborate. Committee work tends to emphasize debate rather than study and priority-setting. The group often works off in a corner, not involving the faculty and administration it needs to influence. Meetings become dull or tense affairs that no one enjoys.

MANAGEMENT SYSTEMS

Yet another way curriculum decisions become reality is through a management system such as Program Planning Budgeting System (PPBS), Management by Objectives (MBO), or the newest rage, Zero-Based Budgeting (ZBB). Such approaches are often more administratively-controlled than planning councils, but they do involve faculty. Generally, a cabinet level team directs lower organizational groups to set long and short-range objectives in relation to institutional mission, then determine staffing and budget in accordance with those objectives. Aligning budget and staffing directly to specific educational objectives and plans is one advantage of such approaches. Other advantages are their rather firm time limits (generally, the annual budget cycle), their involvement of lower groups such as departments and their reliance on data. When done with sensitivity to the human dimension, as Furman University appears to do MBO, such approaches can be an excellent path toward curriculum development.

Yet these approaches also have drawbacks. They are borrowed from organizations which differ from colleges and universities in having greater administrative control, more easily specified and agreed upon objectives, easier ways to monitor sub-unit functions, and greater respect for cost efficiency. A college is not an insurance company or a car manufacturer. Being "managed" does not sit well with professional scholars, and often the management system clashes with faculty governance. Because educational objectives are diverse and complex, and their fulfillment hard to measure, management systems tend to retreat to reliance on financial indicators such as "unit costs," how much money it takes to move a student through a program or to get an article published. The problem is that such measures say nothing about learning. The familiar saying about such systems is that you get the cost of everything and the value of nothing. And because a key part of such information has to do with how individual faculty members or departments spend their time and money, the accuracy of information can be sabotaged easily. Who is going to check the full professor or the highly prestigious physics department to find out if the objectives and activities they report are true? Finally, these management systems tend to reinforce sub-group divisions and competition, for they usually build general institutional plans on the proposals of established departments and schools. Each unit, of course, wishes to protect and enhance its interests. Unless there is an intentional effort to develop plans across sub-groups, such things as interdisciplinary curriculums are very hard to accomplish.

SPECIAL PROJECTS

Curriculum development strategies tend to pay more attention to the problem of initiating new or revised programs than to the myriad problems of implementation. The assumption seems to be that once it is decided what to do, professionals should not have much trouble doing it. The exception is the specially-funded implementation project. Once it is decided what to do, let's get federal or foundation dollars to do it. The curriculum development grant is a familiar aspiration of deans across the country. And funding agencies have been generous. It is hard to find a college which has managed major curriculum development without grant support. The strategy here is to discover which foundation or federal agency is interested in the kind of innovation being considered. Try to know its program officers, draft a proposal which covers most of the initial implementation costs, and if it is funded, run the program until the grant runs out, then hope for the best.

Grants have several advantages. Writing them forces implementors to be clear about what they intend to accomplish, why and how. They allay threats to vested interests, for the new program does not take funds from existing departments. They permit innovation to occur when an institution otherwise could not afford it. They often include funds for advance planning, orientation and training, special equipment, expert consultation, professional coordination, and for evaluation—all of which is very helpful to new programs but not likely if the institution has to support new programs out of existing expenditures. Often, a grant from a prestigious source lends status to the institution and the program. And grant-support gives time to show skeptics that the new-fangled notion really works.

But even assistance from foundation or federal sources has problems. Political and financial limitations only may be delayed and even more painful to confront when they mean eliminating the new program and its staff. Grants can breed false security, enabling advocates to put off the tough issues of practical institutionalization. They can create dependency on plush resources the institution cannot sustain. They can breed envy. If operated in isolation with weak stabs at evaluation, as is frequently the case, they may persuade no one but their implementors that they are worth continuing or expanding. In short, specially-funded projects can be very helpful beginnings or painfully false starts.

COMMON FLAWS IN TRADITIONAL STRATEGIES

Each of the traditional approaches to curriculum development has merit, but almost every one, as normally practiced, appears to have as many weaknesses as strengths. Indeed, most have some of the same flaws in common. A number of crucial errors which stand out are 1) overestimating human nature; 2) top or bottom heaviness; 3) myopia; 4) entrepreneurism; 5) amateurism; and 6) nickel-diming.

Most curriculum development approaches focus on program or institutional objectives in the realm of truth, beauty and justice. Most act as if the persons involved are "self-actualized" and bent on helping the institution and its students, whatever the personal sacrifice. We know better. People seek the personal safety and security of a steady income and other creature comforts. We desire to be accepted, to have status, to be esteemed among those we esteem. We strive for the power to control our own lives. We are not about to risk what we have without assurances that the new curriculum will meet these needs just as well or better. Such concerns rarely are addressed formally in management systems or planning committees. They constitute the unspoken agenda. Unless that agenda is spelled out and intentionally addressed, efforts at curriculum development are likely to result in superficial changes at best.

A second crucial error is to place too much emphasis either on executive direction or participative involvement. Any change will need the strong, persistent initiatives of influential people such as top administrators, but administrators cannot do the teaching themselves and have little ability to force professional compliance. On the other hand, highly participative approaches are agonizingly slow and usually lead to weak compromises among vested interests. The challenge is to mix leadership and member involvement in the right amounts for the given situation.

Unless there are activities expressly designed for systematic study of the institution, of theory and research, and of alternative practices related to the curriculum being developed, the new program will tend to be the product of myopia. Members of curriculum development groups know something about their own experiences as students, professors, or administrators; but those experiences rarely include formal exposure to the knowledge and experiences of others. Most college faculty members, despite their Ph.D's, often have not experienced more than one form of curriculum, read a single book on educational philosophy or learning theory, or ever heard that over two hundred other colleges already do what they think they are inventing. What is needed in curriculum development is a healthy dose of progressive education: start where you are as an institution and build on the knowledge and concerns you do have, but seek guidance from those who have systematically studied and tried the kind of learning approach you have in mind.

It is exciting and challenging to move a new idea from inception to institutional approval. All the innovator's energy and skill tend to go into acts of creating the new curriculum and persuading influential people to give it a chance. Once the idea becomes formal policy, its advocates can turn to the next innovation. At the most, they might help the new curriculum through its initial trial, especially if a grant is secured which gives them time and resources to do it right. The problem with this tendency is that implementation and institutionalization are at least as tough as initiation, though less glamorous. Implementors must be selected, oriented and trained. Sketchy proposal plans must be elaborated into practical implementation policies and practices. Innovations never work right away, so early formative evaluation, feedback and re-tooling must occur. Encouragement and formal rewards must be developed to counter the traditional system's bias against deviation from the *status quo*. Influentials outside the program continuously must be persuaded, while conflicts within the program must be resolved. Adequate materials, facilities and time are constant battles with other programs. All this work is not much fun, but it makes the difference between a flash in the pan and gold.

We would never consider turning over advanced physics to English professors or historians, but we have no difficulty in giving curriculum development to faculty members and administrators who have little knowledge either of the content or the process of curricular development. Fortunately, gifted amateurs are around most colleges and manage, through crash courses on the firing line, to become fairly expert at program development. Things do get done. But this denial of the value of formal education is more than ironic. It is costly in the number of promising ideas and people who get chewed up in the process. Systematic development of college staffs so they have a broad education in the knowledge bases for curriculum development, in the design of curriculum development process, and in the personal skills needed to participate effectively in that process could increase chances that good curricular ideas amount to something.

It is rare for one percent of a college's expenditures to go to program and professional development. Almost all funds, especially in times of scarce financial resources, are committed to implementing the *status quo*. Other organizations know better. Industries and health organizations devote eight to twelve percent of their annual budgets to the research and development of better ways to accomplish their objectives. For most colleges, brief weekly committee meetings constitute curriculum development, unless a grant is received. Rarely does a college have staff and budget to aid such committees. In consequence, development comes from the tedious efforts of interested persons; but no one can live on sleepless nights plus pats on the back for long. What development does occur is likely to be under-researched, under-planned, under-staffed, under-trained, and under-evaluated. Projects can rise above adversity, even thrive and find cohesion in it, for a while; but in the end, too much is asked and too little provided.

SUMMARY

There are several serious obstacles to college curriculum development. The inertia of *status quo* habits and demands leaves little time or energy for change. Academic socialization leads faculty and administration to desire traditional curricular systems. Most colleges and universities have weak information systems to spot problems in current practices, so little need to change is generated. Traditional academic structures and rewards thwart attempts to re-organize learning experiences. New practices are unknown in their demands and payoffs, so they are avoided.

Seven familiar approaches that colleges and universities use to reduce these obstacles to curriculum development have been discussed. All of these strategies have benefits, but they also have serious limitations. Among the most common errors are overestimating human nature, top or bottom heaviness, myopia, entrepreneurism, amateurism, and nickel-diming. An effective strategy for curriculum development would confront such human needs as security, acceptance, status and power. It would combine leader initiative and member involvement. It would build on local needs and experiences but strongly connect to broader knowledge resources. It would give as much skilled attention to implementation and institutionalization of new programs as it would to their development. It would include professional development in the knowledge and skills needed to carry out curriculum development. And it would provide adequate time, materials, and staff to do curriculum development well. Such a model approach is described in the next three chapters.

NOTES

[1] Dwight Ladd, *Change in Academic Policy* (New York: McGraw-Hill, 1970).

[2] JB Lon Hefferlin, *The Dynamics of Academic Reform* (San Francisco: Jossey-Bass Inc., 1969); Warren Bryan Martin, *Conformity* (San Francisco: Jossey-Bass Inc., 1968); Jack Lindquist, *Strategies for Change* (Berkeley: Pacific Soundings Press, 1977).
1977).

[3] F. Fiedler, *A Theory of Leadership Effectivess* (New York: McGraw-Hill, 1967).

[4] Ladd.

[5] Michael Cohen and James March, *Leadership and Ambiguity: the American College President*, (New York: McGraw-Hill, 1974).

CHAPTER 8

Determining Curriculum Development Objectives

INTRODUCTION

"What's the problem?" people ask, and well they should. Curriculum development should not be undertaken on the basis of whimsy. Rather, it should occur in response to real needs and in pursuit of valued objectives. And those needs and objectives cannot be only the concerns of the dean or a few professors. A curriculum directly involves several faculty members and many students, while it indirectly affects the entire institution. It is not going to be effective unless it meets the perceived needs and desired objectives of a large number of campus members.

Determining a need for curriculum change among various students, faculty members, and administrators is no easy task. The obstacles delineated in Chapter Seven indicate that such an effort must stop organizational inertia long enough to decide whether this program is seriously moving in the right direction. During this self-assessment, staff and students must be socialized to this institution's unique mission, history, human and material resources. Valid information must be generated and used regarding the effectiveness of current practices and their alternatives. The barriers of isolated and competitive academic structures and rewards must be reduced by making collaborative diagnosis both real and rewarding. The process must be made as non-threatening as possible.

The following tips and exercises seek to reduce these obstacles to curriculum improvement. They do not begin with goal setting, for most college members will not be adequately informed, concerned, or able to set goals together in the beginning. Rather, a process of education and interaction establishes a foundation for determining what needs developing. Included are activities to help campus members clarify their own educational philosophies; ways to learn about the nature of local students; approaches to examining curricular practices and outcomes; and tactics for increasing local knowledge of alternative curricula. Then comes some goal setting and action-planning tips.

Readers interested in studying the research and theory on change in undergraduate education which underlies these chapters, are encouraged to read Jack Lindquist's *Strategies for Change: Collegiate Innovation as Adaptive Development* (Berkeley: Pacific Soundings Press, 1977). That work provides a synthesis of prior change theory, seven detailed case studies of attempts to improve undergraduate curriculum and teaching, and a conceptual framework for academic development.

THE AIMS OF EDUCATION

Everyone has beliefs regarding "good" education. But very few have developed their educational philosophy through intentional study and reflection. Rather, biases accrue through experience and lie latent, sometimes unknown, behind our actions. Following this paragraph is a series of activities by which campus members can bring their educational philosophies out into the open, contrast them with notable thinkers on this subject, and compare their views with colleagues. This and later exercises do not need to be followed religiously. They are meant to be guides for you to design your own way to determine what kind of curriculum your institution needs. The objective of the following activities is to assist curriculum decision makers in becoming aware, well grounded, and articulate regarding their beliefs about the proper aims of higher learning.

Activity 1: Background Reading

There are classic arguments regarding the aims of education. An excellent entry into the ideas of such thinkers as Mill, Newman, Whitehead, Hutchins, Dewey, Van Doren, Veblen and others is John S. Brubacher's *Bases for Policy in Higher Education* (New York: McGraw-Hill, 1965). Kohlberg and Mayer's "Development as the Aim of Education" (*Harvard Educational Review* 42 (4) November, 1972) might be added as a provocative argument that many educational philosophies are unsubstantiated by learning theory or research. That book and article, in addition to Chickering and Halliburton's parts of this handbook, could be distributed to each person identified as influential, or potentially influential, in curriculum development. Other readings could be added to balance perspectives, but the list should be kept short. Few have much time for extra reading these days.

Activity 2: Interview on Beliefs

After persons involved in curriculum development have had time to do some background reading, conduct one-hour interviews with each person. This process could be done by professional interviewers, students, a small faculty task force, or curriculum development persons interviewing each other. It could take place prior to a workshop on educational philosophy or as a one-hour activity early in that workshop. The advantage of such interviews is that they give participants an hour to articulate their own beliefs to one other person in a free and non-threatening way. Interviewers should be told that responses will be recorded, combined with other responses, synthesized, and reported back for use, but that no individual will be identified with any particular view. It may be necessary to use trusted colleagues as interviewers to reduce anxiety.

SUGGESTED QUESTIONS

1. You have been doing some reading concerning the aims of higher education. Which arguments do you find most persuasive for our institution (program)? Why? What about those arguments that seem particularly fitting for our situation?
2. One major difference of belief concerns whom higher education should serve: a socio-economic elite, a meritocratic elite, or every person who has interest and minimal competencies. Where do you think our institution (program) should line up on this issue?
3. Another major difference of opinion concerns what parts of a person should be developed: the knowledge, the thinking, morality and ethics, the social and emotional sides, the aesthetic or creative, and the physical. How many of these areas of development do you think should be improved, and in what order of priority do you place them?
4. Yet another central issue concerns the practical usefulness of education. Should a primary concern be to provide students knowledge and skills which will enable them to cope successfully with the social and economic demands of this society, or should it be something else? What might that something else be?

Activity 3: Philosophical Similarities and Differences

Summarize responses into a few general themes which complete this sentence: "The aims of higher education are. . . ." Seek a middle ground of generality, between vague abstraction and highly particular preferences. Then gather respondents together to discuss the results. If interviews were done ahead of time, a written synthesis can be distributed to participants just prior to the meeting. If interviews took place in the same workshop, the synthesis (probably done over night) can be written on a blackboard or flip chart. The purpose of this discussion is to help persons involved in curriculum development see where their own beliefs agree or disagree with others, not to make hard and fast decisions. Discussion procedure might go like this:

1. Review major findings in two columns: "consensus" (two-thirds or more agreement) and "dissensus" (less than two-third agreement).
2. Divide assemblage into small groups (no more than five) by counting off (or some other device to get a mix of disciplines, ages, familiarities) and assign each group a leader and recorder.
3. Assign the task of outlining a statement of educational philosophy for the institution (or program) based on the interview synthesis and representing substantial agreement within the group. Each statement should begin with "We believe . . ."
4. Provide at least one hour for this task. Ask leaders to keep each group on the task, and ask one recorder in each group to write the statements on a piece of newsprint to be posted at the end of the task.
5. After all statements are posted, read each one (or ask recorders to read their own) to the whole group. Invite or make observations regarding where the major agreements and disagreements now appear to lie.
6. Ask participants to take a piece of paper and write answers to three questions: a) What has this reading, interviewing and discussing done to help me clarify and articulate what I believe concerning the aims of higher education? b) What have I learned about where my beliefs agree and differ from those of others involved in curriculum development here? and c) What do I plan to do next to move toward a more substantially grounded educational philosophy? Collect the papers, unsigned, as evaluations of the workshop and as evidence of progress toward clarity and agreement concerning the aims of education.

An alternative to this activity is to ask curriculum decision makers to describe in detail on a piece of paper the ideal graduate of this institution. What does that person know? What can she or he do? What is she doing? What does he believe? Then have each person trade written descriptions with another person. Ask each to complete the sentence "The aims of higher education are . . ." according to the evidence contained in each partner's profile. Have pairs share those statements and discuss their accuracy, then form larger groups (four or six) to discuss the commonalities and differences among their graduate profile and aims of education statement. That exercise can be followed by reading in educational philosophy.

THE NATURE OF OUR STUDENTS AND THEIR LEARNING

Several aspects of students have relevance for curricular goal-setting: their own goals, their educational backgrounds, the pace and styles of learning they find most beneficial, the knowledge and skills they bring to the program. Here are several ways to obtain this information (see the "learning log" in Appendix A):

1. The Learning Portfolio

Ask students during or prior to entrance, after a year or two of college, and at exit, to answer several questions such as the following: a) What do you hope to learn in the next year or two? State your learning objectives, including if appropriate, the knowledge, skills, appreciations, occupational status and enjoyments you hope to derive. Be as specific and candid as you can. Take a look at the stated objectives for this institution (program) and state the ways your objectives and our programs do and don't fit. Keep in mind that you should not change meaningful personal goals just to fit our statement. Be frank about differences so we can adjust our goals to fit yours. b) What learning have you acquired already in relation to the learning objectives you have just stated. Include learnings gained in formal schooling or through other experiences (jobs, volunteer work, travel, reading and living in another culture.) Please specify what you have *learned*, not just what you have done, and indicate ways that those learnings can be verified. (What evidence would persuade someone else that you indeed have learned what you claim?) c) Under what conditions do you learn most effectively? For instance, do you learn best from lectures and exams, readings, discussions, and papers; field assignments or lab work; by yourself or in a group; in competition for grades or in "mastery" arrangements in which everyone can achieve mastery; at a fairly fast pace or slowly, with care and repetition; only in subjects you know and like or in new and different areas; with supportive and informal teachers or with demanding and formal ones? Think of the times you felt you really were learning well. What made it work so well?

This Learning Portfolio can be designed as a survey instrument by inserting forced choice answers to each general question. It can be designed as an essay. Or it can be administered in an oral interview. The latter approach has particular merit when students find the questions unfamiliar ("Nobody ever asked me what *I* wanted before") or when writing is a problem for an otherwise qualified entrant. In each case, answers can be coded, tabulated and summarized to give a general picture of entering students. For the purposes of needs assessment, the Learning Portfolio may be administered only to a representative sample of students rather than to everyone.

2. *The Survey of Student Characteristics*

Several standardized survey instruments gather the kind of information or student characteristics that is helpful in setting program objectives.

STUDENT BIOGRAPHICAL INVENTORY (SBI)

This questionnaire is given to students at entrance to a college or program and covers prior educational experience and status, financial status, learning objectives, personal traits related to learning (e.g. independence, persistence, mathematical ability), and self-assessments regarding Bloom's cognitive and affective areas of development (e.g. ability to analyze, synthesize, clarify purposes, understand self and others). The SBI is used in several kinds of colleges and universities. (Contact the Office of Research and Evaluation, Empire State College, 2 Union Avenue, Saratoga Springs, New York 12866.)

HIGHER EDUCATION MEASUREMENT AND EVALUATION KIT (HEMEK)

Along with student assessments of college environment, the kit includes student estimates of the student body on learning objectives and progress, academic orientation, cosmopolitanism, personal traits, values and priorities. (Contact Robert Pace, Education School, UCLA, Los Angeles, California 90024.)

STUDENT INFORMATION FORM (SIF)

This is an annual freshman survey administered by the American Council on Education and Alexander Astin of UCLA. It includes questions on student backgrounds, past educational behaviors, and attitudes. (Contact Astin at UCLA or the American Council on Education, One Dupont Circle, Washington, D.C. 20036.)

MYER-BRIGGS TYPE INDICATOR

The instrument assesses ways students feel they learn most effectively. Contact Mary McCaulley, Center for Applications of Psychological Type, 1441 Northwest 6th Street, Suite B-400, Gainesville, Florida 32601. Other instruments on learning styles include the *Student Orientations Survey* (contact Barry Morstain, Education School, University of Delaware 19711) and the *Student Learning Styles Questionnaire: General Form* (contact Anthony Grasha, Institute for Research and Training in Higher Education, University of Cincinnati 45221.)

OMNIBUS PERSONALITY INVENTORY (OPI)

This instrument is designed to assess attitudes, values and interests relevant to academic functioning of students. Scales include: Thinking Orientation, Complexity, Autonomy, Practical Outlook and Estheticism. (Contact Paul Heist, Education, Univ. of California Berkeley 94720.)

STANDARDIZED EXAMINATIONS

The SAT, the College Level Examination Program (CLEP), the Undergraduate and Graduate Record Examinations (URE and GRE), and other such tests help assess student knowledge and intellectual skill at entrance, during the program and after exit. Such tests, aggregated, can suggest areas in which students are strong or weak. (Contact the American College Testing Service and the Educational Testing Service for instruments and procedures.)

3. Assessment of Learning Experiences

Besides student characteristics, it is helpful when setting program goals to know what kinds of learning experiences students are having. Are they experiencing the form of education we mean them to have? Several techniques for getting at that question follow:

TRANSCRIPT AND COURSE ENROLLMENT SURVEY

At the most general level, you can picture student learning experiences by studying transcripts and enrollment counts of courses or contracts taken. Is there a pattern of emphasis in certain fields? Do history majors take different kinds of science courses than sociology students? Are certain courses consistently bulging and others nearly empty? Are certain supposedly upper division courses taken and passed by many lower division students, and vice versa? Can you identify informal interdisciplinary programs in the way students pick their courses? Transcripts also include grades or written evaluations. These, when put against data on student characteristics and field of study, can suggest which kinds of students seem to do well or poorly in what subjects. A computer program is usually necessary to produce these profiles, but if registration is computerized, it is not a programming task beyond the ken of local computer experts. (Also, the National Center for Higher Education Management Systems (NCHEMS) in Boulder, Colorado 80302, has programs which allow you to conduct such analyses.)

EXPERIENCE OF COLLEGE QUESTIONNAIRE

This instrument seeks to discover how students go about learning in courses and in the extra-curriculum. It asks them to describe what percentage of their time in particular classes they spend in such activities as listening and taking notes or participating in discussions, then what percentage of the time they spend studying for that course they devote to such mental activities as memorization, analysis and synthesis. It asks students how much contact they have with faculty members and close friends, what they talk about, and what impact these contacts have in such vectors of development as increasing intellectual competence and clarifying purposes. It devotes considerable attention to the extra-curriculum and includes a short scale regarding dependence and independence in learning. (Contact Arthur Chickering, Center for the Study of Higher Education, Memphis State University, Memphis, Tennessee 38152.)

PERIODIC INTERVIEWS

William Perry, in *Forms of Intellectual and Ethical Development in the College Years* (New York: Holt, Rinehart and Winston, 1970), describes a process of assessing student development in college through periodic, in depth interviews. Ernest Palola and his staff in their *Program Effectiveness and Related Costs Handbook* (Saratoga Springs, New York: Empire State College, 1976), use such interviews at entrance, mid-point and exit to provide a rich view of student experiences to augment surveys. A small sub-sample of the survey group can be asked to describe what they are studying, how they go about it, what they are learning, what helps and hinders that learning, and what they plan to do next to advance their learning. Their professors can be asked what they were trying to teach, how, and what seemed to them to help or hinder the learning of the students in question. Case reports or content analysis of interview transcripts can yield vivid pictures of what a curriculum is currently doing to students.

THE SNAPSHOT

By directly observing a group of students all day for a week or two, and asking them to keep a log, you can develop another vivid depiction of the curriculum in action. Again, the faculty they contact during this brief period also can be observed and asked to keep logs. For a week or two, such inspection and recording usually is more curious novelty than noxious chore.

CRITICAL INCIDENTS

Critical incidents are another kind of snapshot. Ask selected students to focus on incidents that were particularly effective or ineffective (preferably one of each) learning experiences. Ask them to describe those incidents in full, either orally to recorders or in writing. A fair sample which includes students of varying backgrounds, objectives, abilities and learning styles should yield sharp views of the kinds of curriculum worth constructing.

COURSE AND TEACHER EVALUATIONS

Here is yet another source of valuable information for assessing program effectiveness. Ask faculty for permission to use their course evaluations to aggregate summary pictures of programs, not courses or teachers, with individual faculty ratings kept confidential. In a small school, summaries of evaluations may need to be by general division, such as social or natural science, to protect individuals. Courses also can be aggregated in a major or non-major sequence to see, for example, how majors evaluate all their physics courses over four years or how non-majors rate all the physics courses open to them.

PEER REVIEW OF OFFERINGS, COURSE DESIGNS AND SYLLABI

Students are good sources of information regarding their own learning experiences; but professional colleagues in the same field, perhaps as outside consultants, are better judges of the appropriateness and timeliness of program offerings, course schedules, assignments and bibliographies. Again, aggregate such data by program, keeping individual professors anonymous.

4. Assessments of Institutional Environment

There is such a thing as an institutional "climate" which encourages or discourages learning and curriculum development. Is the institution open and tolerant of various ways to learn? Is there trust and respect among students, faculty and administration? What kind of achievements are rewarded? Is it easy or hard to get institutional consideration of new ideas? Several instruments assess institutional environment (see the educational environment scale in Appendix C).

THE COLLEGE AND UNIVERSITY ENVIRONMENT SCALES (CUES)

This instrument asks students to describe such institutional characteristics as a sense of community, the supportiveness of faculty-student relationships and the degree of attention paid to scholarly effort. (Contact Robert Pace, UCLA School of Education, Los Angeles 90024.)

THE INSTITUTIONAL FUNCTIONING INVENTORY (IFI)

This survey instrument asks faculty members, students and administrators to rate such aspects of the institution's vitality as its diversity, the freedom of faculty and students, the amount of concern for undergraduates, the degree of democracy in governance, amount and adequacy of self-study and planning, concern for innovations, and esprit between faculty and administration. (Contact Educational Testing Service, Princeton, New Jersey 08540.)

5. *Assessment of Learning Outcomes*

Many of the instruments and procedures just described can be used as measures of learning outcomes. Pre-post tests of student learning abilities, attitudes and objectives, plus longitudinal case studies, form a nice package. Without pretests, it is not possible to have good evidence that a curriculum, rather than prior learning experiences, accounted for outcome abilities and interests. Without in-process pictures, a good view of why scores changed from entrance to exit will be lacking. Also, interviews and learning portfolios are excellent exit studies (whether the exit is graduation or attrition). With adaptation to allow for the forgetting curve and for later work and family experiences, most of these procedures can be used a year or five years after exit to see if residual effects of a program can be traced. Are they still reading books or going to lectures in a program area? Are they applying program learnings on the job, at home, or in the community? Are they accomplishing the objectives they had in mind during college? Looking back, what college learning experiences now seem most valuable to them? Such questions may have to be answered over the phone, for mailed surveys to college graduates are devilishly hard to get back; but the information can be well worth the trouble. A low-cost way to conduct such interviews is to ask current students to conduct them as a way for them to learn what it is like after graduation and what current learning experiences they may want to have.

6. *Assessment of Program Costs*

In setting program objectives, it is well to keep costs in mind, for they are unavoidable and become major issues, especially in these times of rising expenses. Normally, costs are measured only in dollars; but the human costs of overwork, of doing unrewarded or unenjoyable work, take their toll as well. One assessment tactic worth considering, therefore, is an interview or survey of staff members to ask them their attitudes about activities in and rewards from current curriculum. Also, three dollar-cost analysis approaches are worth considering:

PROGRAM EFFECTIVENESS AND RELATED COSTS (PERC)

Under support from the Fund for the Improvement of Post-secondary Education (FIPSE), Empire State College, in cooperation with the University of Wisconsin at Green Bay, Northland College, the State University of New York-Plattsburgh, and Hampshire College, is developing a way to assess program costs in relation to the amount of learning which occurs in students as estimated by students, faculty and external measures. It is among the first approaches to relate costs to learning and therefore is of major importance. (Contact Richard Debus, Empire State College, 2 Union Avenue, Saratoga Springs, New York 12866, for details and a copy of the PERC Handbook.)

NATIONAL CENTER FOR HIGHER EDUCATION
MANAGEMENT SYSTEMS (NCHEMS)

Also under federal subsidy, NCHEMS has developed computer-based cost analysis instruments and procedures in cooperation with a national network of colleges and universities. Primarily a system to assess unit costs rather than learning costs, it nevertheless is a very helpful tool and is in the process of developing learning outcomes measures. (Contact Ben Lawrence, National Center for Higher Education Management Systems at WICHE, P.O. Drawer P, Boulder, Colorado 80302.)

CASC COST ANALYSIS PROGRAM

The National Research and Management Project of the Council for the Advancement of Small Colleges has developed a system for determining detailed comparative instructional costs for four-year private colleges. It identifies unit costs by department and student program (major) and is based on NCHEMS' Program Classification Structure. A simplified data collection system has been designed, and cooperative electronic data processing service is available at modest cost. (Contact William A. Shoemaker, Vice President for Research, CASC, Suite 320, One Dupont Circle, Washington, D.C. 20036.)

FEEDBACK OF PROGRAM ASSESSMENTS

It is rarely sufficient to analyze data, write up a summary report, and distribute it around campus. A few people might be open, interested in such reports, and in the midst of a curriculum development phase which sorely needs just this information. More likely, recipients will be closed to information which does not corroborate their opinions, uncomfortable with educational studies, too busy with other concerns to give the report much time, and unsure how to use the report even if they wanted to use it. It is crucial, therefore, that assessment information is presented to those involved in curriculum development in ways which gain their attention and interest while moving them to the practical use of it. Here are a few useful approaches:

The Assignment Advisory Committee or Council

There are many decisions which need to be made in assessing one's program: what to examine, how to design it, what questions to ask, how to get permission to ask them, how to administer assessment, how to code and analyze answers, how to feed the information to whom, how to get it used. Often, institutional researchers decide such matters themselves. A strategy which increases ownership, expertise and influence among those whom you want to use the data is to involve them in each of these decisions. Establish an advisory board for program assessment composed of faculty members, administrators and students who are esteemed among their peers, have program assessment expertise, and can be influential in gaining research cooperation and use. If certain faculty you expect to be skeptical but influential are not on the board, involve them as consultants to help guide you through these decisions. It is harder for skeptics to attack an instrument or procedure they helped design than someone else's, and you just may learn something from them.

Targeted Reports

Rather than waiting until all the data are thoroughly analyzed and then sending out a bulky report no one will read, pick your spots. Keep abreast of committee activities and design short reports directed at issues they are considering. Do the same for the administration. Give them what they need when they need it, with brief summaries up front for quick scans, with as little jargon as possible, with easily understood tables and graphs containing only enough data to make one point each, and with policy or program implications clearly spelled out. Such reports, dressed in an impressive (but inexpensive) cover and titled to catch the eye, can be distributed more generally to persons in faculty and student government, administration and board, so that they have some of the background evidence which lies behind proposals they may see in the near future.

Mini-Workshops in Program Assessment

Messiah College has used a feedback technique which is successful because it adds (to mailed reports) a formal break in business as usual and personal interaction. Once or twice a semester, faculty administrators, and representative students are invited to a 4:00 p.m. to 8:00 p.m. workshop, with dinner on the college. Each is sent beforehand a brief report such as a summary of Experience of College Questionnaire responses. After a brief introduction to the workshop and the data by a workshop coordinator, small groups mixed by academic areas and faculty-student-administrator groups discuss the data, weigh its validity in light of their own experiences, and consider its implications for program development. Group discussion continues through dinner. After dinner, groups report on what evidence was most striking to them and what program implications occur to them. These reports are generally discussed. After the workshop, reports are channeled to appropriate decision making bodies. Participants comment that the chance to discuss such information with colleagues in other areas and especially with students open their eyes to problems they had not felt as keenly before.

The Action-Research Team

Colleges and universities have governance committees and institutional research offices, but rarely do they have faculty-student-administration groups whose assignment is to help these bodies generate and use information which can help identify or solve program problems. Two federally-funded projects, however, have helped higher institutions build and operate such "action-research teams." These projects are described in Sikes, Schlesinger and Seashore's *Renewing Higher Education From Within* (San Francisco: Jossey-Bass, 1974) and in Jack Lindquist's *Strategies for Change* (Berkeley: Pacific Soundings Press, 1977.) The idea is that trained, collegial groups not only can focus energy and skill on needs assessment as well as other parts of program development. They can become skilled catalysts and facilitators of decision making (though not decision makers themselves). They can be an economical alternative to professional researchers and development facilitators. Such a team conducted the Messiah "mini-workshops." Such a team also conducted the University of South Carolina goals study described on ensuing pages. (For more information on action-research teams, contact Walter Sikes, Center for Creative Change in Higher Education, Yellow Springs, Ohio 45387 or Jack Lindquist, Center for the Study of Higher Education, University of Michigan, Ann Arbor, Michigan 48109.)

CURRICULUM THEORY AND PRACTICE

If you are helping local faculty, administration and trustees clarify their educational philosophies, understand their students, and study program effectiveness and related costs, you are well on your way toward being able to make well-informed decisions about program goals. And if you have used designs which involve key influentials, interacting together across major sub-groups, you are well on your way toward reaching meaningful agreements about what your program needs and goals are.

But there are two sizable hurdles yet to cross. One is to become well informed about current theory and practice related to college curriculum. The other is to take a hard look at economic, social and political trends which might have significant impact on what you are able to do in the next few years. In both areas, some staff and/or team (such as the action-research team) needs to play the role of a linking agent, one who gets to know external knowledge resources very well, gets to know local influentials (persons and groups) very well, then connects the two at the right time in the right way. Concerning curriculum theory and practice, several linking activities can be used.

1. Book and Article Circulation

As articles directly related to local curriculum issues appear in such journals as *Change*, *Liberal Education* or *The Chronicle of Higher Education*, it is inexpensive to reproduce them or order copies, then distribute them to faculty, administration, student and trustee members you feel are "opinion leaders" on such matters. Opinion leaders can be identified by asking members of campus sub-groups, "When a major curriculum issue comes up, to whom do you turn for good information and advice?" A more unobtrusive measure is to note whom the various groups elect or appoint to key governance bodies or to note who has the strongest credentials generally respected at the institution. Occasionally, books such as Mayhew's *Changing the Curriculum* (San Francisco: Jossey-Bass, 1973), Bell's *Reforming of General Education* (New York: Columbia University Press, 1966), and the *Yellow Pages of Innovation* (Ithaca: Center for Improvement of Undergraduate Education and *Change* magazine, 1974) come along. Because these books describe promising alternatives to your current curriculum, they are worth buying and distributing. Books and articles on college learning and development, such as Erickson's *Motivation for Learning* (Ann Arbor: University of Michigan Press) and Chickering's *Education and Identity* (San Francisco: Jossey-Bass, 1969) also carry strong messages regarding college curriculum.

A major problem with this tactic is that you are asking busy people to read what they normally do not. It helps to provide special occasions and inducements. A luncheon seminar with special invitations from the dean or senate executive committee, held in the "executive dining room" or the president's home, might help. More informally, a bag lunch organized among colleagues can make these readings topics of discussion and can prick academic consciences into doing homework. If these readings are part of assignments between meetings of curriculum committees, that also provides an incentive. Encouraging faculty to include such readings as suitable fare for professional development time can help. It is a maximum effort under the best of circumstances, but even if a half dozen institutional leaders get in the habit of keeping up with readings related to curriculum, their knowledge can enter curricular goal-setting.

2. *Curriculum workshops*

Borrowing a model from faculty development, an occasional two or three-day workshop is recommended to share and compare various approaches to the design of learning programs (see Halliburton's description of the Pacific Lutheran University workshop in Chapter 4). External consultants generally knowledgeable about curricular alternatives or from a program of interest to your institution could make presentations and, more informally, link participants to outside information. Facilitators could help participants learn to openly assess their curriculum in light of existing theory and practice. Sessions could be alternated among three foci: effectiveness of current practices, alternatives to what is being done, and planning for further curriculum study or reform. By using small, cross sub-group interactions, campus leaders can learn from one another and grow to respect, even trust, one another. Two or three days, with some readings distributed beforehand and a coordinating group to ensure careful follow-up, would concentrate more useful time on curriculum than many faculty members and administrators can find in a year.

3. *Off-Campus Visits*

To counteract myopia, intentionally send key faculty and administrative leaders to other institutions where they can observe alternative curriculum first-hand and talk directly with faculty and students experiencing them. Within one-day's drive and return should be several important alternatives to what you do. Five leaders who rarely talk together but who find themselves in the same car on the same excursion could well discover common concerns and interests. As innovation researchers find, a first-hand look is worth a lot of pages in convincing somewhat skeptical people that apparently respectable, equally skeptical colleagues can do, and believe in doing, curriculum differently.

4. *Faculty Exchange or Sabbatical*

For a more in-depth experience in alternatives, establish a fund to send curriculum leaders (preferably faculty opinion leaders) to alternative programs to teach a semester, while taking their counterpart to teach in your program. As job mobility decreases, such exchanges or (if one way) sabbaticals may be one of the few ways to inject into staff concrete experiences in colleges whose programs differ from yours. And the visitor to your program can serve as a participant observer/consultant to you. Although the logistics of temporary relocation and finding good matches of institutions and persons are formidable, the benefits are well worth the trouble. Colleges and universities within commuting distance of one another can manage such exchanges or visiting appointments with a minimum of personal inconvenience.

5. Team Conference Attendance

Associations such as the American Association for Higher Education, the Association of American Colleges, the American Association of Community and Junior Colleges and the Council for the Advancement of Small Colleges have conferences bursting with information related to curriculum. The problem is that attendance is primarily by administrators. They then face the problem of getting the ideas they hear into faculty curricular committees. An alternative is to send the committee or its chair and ask for a report to faculty and administration upon return.

6. Analyzing Social-Political-Economic Trends

College curriculum groups often discover too late that the population of prospective students has shifted in age or preparation or interest. They often are the last to hear about cuts in appropriations, rising fuel costs, competitions for grants, new legislation which affects job availability or requirements, or new programs among competing institutions. Another program assessment challenge, therefore, is to get this information into the hands of curriculum opinion leaders in ways which arouse their awareness and interest. Brief, timely, jargon-free, easy-to-understand presentations help. Having esteemed colleagues get the information themselves, by going out with admissions officers, sitting in on legislative higher education committees, doing a stint in the vice president for finance's office, can increase credibility in the source of such news. Their attendance at higher education conferences and reading the *Chronicle* also help. In each of the areas germane to this trend assessment, the college has professors who can lend expertise and credibility to investigations. The major strategy is for administrators, who usually are well-attuned of these trends, to avoid keeping these information channels to themselves or *telling* faculty. It is hard for faculty to trust information they do not have easy access to and which is told to them by the administration. *Encourage* faculty members (don't just *let* them) discover and report this information themselves. Start trust at your end. An important resource for analysis of external conditions is the market analysis technique described in William Bergquist and William Shoemaker's "Comprehensive Approach to Institutional Development" in the Jossey-Bass *New Directions* book of the same name. A task force of the National Research and Management Project, directed by William Shoemaker, Vice President for Research, the Council for the Advancement of Small Colleges, has produced a very practical manual to assist an institution approach curriculum assessment and development from a new perspective. Drawing heavily on the concepts of market analysis and marketing, the manual outlines a systematic process and a checklist of such things as:

a) defining a college's major publics
b) identifying a college's major markets
c) clarifying market characteristics and size
d) identifying market "feelings" about the college
e) identifying how and why the student market makes decisions about the college
f) identifying and classifying competitors
g) identifying trends
h) determining cost and price
i) designing marketing strategies
j) evaluating and designing delivery systems

Specific suggestions are made regarding suitable methods and tools and systematic processes for their use.

SETTING OBJECTIVES

With background in educational philosophy, study of students and their learning, and examination of practices outside the institution, all done in a collaborative way, it is time to decide curriculum development objectives. The following are several kinds of activities which can help move the institution or program toward clarity and agreement regarding what needs to be done to improve local curricular practices (see descriptions of several techniques in Appendix C).

Goals Survey and Feedback

This series of events was used by an action-research task force at the University of South Carolina. It seeks to create broadly owned, evidence-based program improvement goals. It does not aim to get a large, highly complex university to agree on any one thing. This process is appropriate and easier to manage in a small college (see a description of the delphi technique in Appendix C).

The Team

The action-research team was composed of the university's educational development officer, the chair of the faculty senate-initiated Academic Forward Planning Committee (a distinguished university professor of political science), the chair of the faculty senate (a distinguished university professor of economics), and an associate professor of psychology who was the on-campus coordinator for the Strategies for Change Project and a political leader among younger faculty. In short, it was a small but potent group, compatible in its members' concern to improve university attention given undergraduates.

The General Strategy

The team decided the university should administer the *Institutional Goals Inventory* (Educational Testing Service, Princeton, New Jersey 08540) as a way to get broad-based input on institutional goals and needs. The instrument had been discussed in the new Academic Forward Planning Committee (AFPC), whose members also saw need to get a better grip on institutional priorities. The team decided that such a study would be effective only if executive administration, faculty senate, and the AFPC supported the endeavor. The team could provide the manpower (being all men). AFPC seemed the appropriate sponsor, for it was the planning body, combined leading faculty members and executive administrators in its membership, and wanted to do such a project.

STEP 1: The team met with the university president and secured his willingness to commit upwards to $1,000 for the scoring of instruments and follow-up workshops. He had heard about the IGI before the meeting, and recently had become more aware of the need for participatory development of change.

STEP 2: The AFPC chair put the IGI on the committee's agenda and asked the associate professor of psychology, the person on the team with the strongest survey research credentials, to present the survey. The psychologist not only explained the questionnaire's development and uses but asked each AFPC member to complete it. He scored responses before the next committee meeting and presented the results. The group found the results useful and wanted to learn how AFPC's goals compared with the faculty's. They agreed to sponsor the broader survey.

STEP 3: The psychologist, who also was a faculty senate member, went through the same procedure with the senate. This time, the IGI was put on the agenda by another team member, the senate chair. The senate volunteered to help administer the instruments after learning its own answers to the survey.

STEP 4: Institutional Goals Inventories were sent every member of the university staff in the spring, plus the trustees, with cover letters from AFPC and the president. Responses were processed and returned by the Educational Testing Service.

STEP 5: Two Goals Workshops were designed by the team and sponsored by AFPC the next fall. Each was open to anyone, but faculty members and administrators known to be interested in undergraduate education and persons thought to be opinion leaders on such matters were expressly invited by AFPC.

STEP 6: Team members prepared a summary report on IGI findings and also prepared presentations of the *Experience of College Questionnaire* and *Institutional Functioning Inventory* data which might explain problem areas suggested by IGI. The latter instrument, incidentally, shows how great a gap there is between emphasis given such goals as Intellectual Orientation or Individual Personal Development and how much emphasis respondents think the university *should give*. A goal which has very high "should be" scores and very low "is" scores probably will be perceived as a problem area, a clear signal that priorities need changing. Because sub-groups can be compared (e.g., students vs. faculty, social science vs. humanities) and standard deviations are reported, one can determine how much consensus there is on a given item. The general report identified three areas of concern which registered high agreement among respondents:

> *These are 1) a deep and widely-shared concern to improve the intellectual orientation (i.e., commitment to learning as an intrinsic value) of both faculty and student; 2) a concern to improve the quality of the campus climate, including the communication among all elements, the degree of mutual trust, and the procedures for democratic governance and consultation; and 3) a concern that the university be capable of adapting to the demands for new skills, new kinds of students (older, more heterogeneous), and a greater emphasis on public service.*

STEP 7: Two workshops, each held Friday, 4:00 p.m. to 8:00 p.m., and Saturday, 9:00 a.m. to 3:00 p.m., were attended by about 120 faculty members, administrators and students. An outside consultant on future population and occupation trends and an outside consultant on planning process were involved, but the primary leaders were the AFPC chair, the senate chair and the associate provost for planning. After brief introductions to the IGI results, to the data on student learning experiences, and to evidence of emerging trends and concerns nationally, small (six to eight person), student faculty-administration groups discussed the data. AFPC members acted as group leaders. Each group was to report by noon Saturday the major development needs it identified. These were quickly synthesized into a few areas or topics, and individual participants were asked to write on a "pledge card" their name and a topic to which they were willing to contribute development time.

STEP 8: The Academic Forward Planning Committee studied the areas of concern and organized action projects, tapping the volunteers to move those concerns toward concrete solutions.

This kind of process has several advantages. It has a core team of committed, skilled and influential people to carry out necessary tasks and to map strategies. It has ownership among major governance groups plus administrative support and dollars. It generates new information which participants find insightful and useful. It starts with interested volunteers but includes various sub-groups and key opinion-leaders. It moves from general goals discussion to concrete actions coordinated by a legitimate planning body. It is, however, a slow process which needs steadfast support and guidance over two or more years; it is rather large-scale, and it is hard to move from general goals to specific actions.

Group Interviews to Planning Task Forces

Arthur Chickering, James Hall (president) and Jack Lindquist used a shorter priority-setting process in the fall of 1975 at Empire State College. It went like this:

STEP 1: Prior to the fall of 1975, an institutional self-study and various research reports had helped faculty and staff study the development needs of the college.

STEP 2: Chickering and Lindquist visited every learning center (ESC sub-units, roughly analogous to large departments or small schools within other institutions) in September to hold a one-hour meeting with faculty and staff to learn their perceptions of important developmental needs for the next year or so in that center and for the institution. They listed on newsprint each suggestion (all were honored to help people feel free to speak) and then quickly synthesized suggestions into a few development areas, checking with the group to see if that synthesis seemed right to them. Then each person was asked to write her three top priorities, circling the one she would be willing to volunteer time to help. Responses quickly were tallied and written on the newsprint or blackboard. Although participants agreed that this exercise was somewhat superficial because it was done so quickly and without debate, they generally found the lists quite representative of their concerns and a remarkable feat in one hour.

STEP 3: Lindquist composed a written summary for each center and sent it to faculty, then made an overall summary of major development concerns to present to the President's Committee on College Development, Empire State's academic planning body.

STEP 4: At its fall meeting in late September, the Committee on College Development used the major development concerns which had emerged from the centers as charges to assign faculty-administrative task forces. These task forces, invited by the president, met infrequently but did their homework between meetings and received aid from institutional research staff, professional development staff, editorial and secretarial staff, plus Chickering and Lindquist as general coordinators.

STEP 5: Each task force submitted a report of action recommendations. The Committee on College Development reviewed those proposals, made minor revisions, and asked the president to administer follow-through by administration and faculty governance or by specially-funded development projects.

This approach more quickly moves to identification of development priorities than goals surveys but it is more superficial and not as well connected to faculty governance early on. It needs faculty trust in the staff who do it and a clear sense within the institution, based on prior study, of what the major development areas are likely to be. It, like the South Carolina strategy, benefits from a small core of committed, skilled and influential people, close connection to administrative units (executive and centers), broad participation, evidence bases, and coordination by a legitimized planning body.

Force-Field Analysis

When a development group gets to the point of agreeing on a few crucial areas needing improvement or innovation, it is wise to take stock of the forces pulling for and against such development. What resources do you have to pick this problem? What obstacles do you face? Kurt Lewin, a physicist who brought his trade to the solution of social problems, (see *Field Theory in Social Science* New York: Harper, 1951) theorizes that the reason the forces for change do not usually accomplish change is that the forces of resistance are at least as great. Time, money, knowledge, skill, influence, motivation to achieve security or status or power or higher goals line up rather strongly on the *status quo* side of the ledger. Force field analysis is a technique for identifying supports and resistances, then planning to reduce some of the resistance (see a description of the force field analysis technique in Appendix C). The point is that overwhelming the resistance may bring political victory, but it won't bring the commitment and cooperation of the vanquished. If you need them and cannot force their compliance, you must win them over.

STEP 1: Clarify a development need, by the survey or group interview processes just described, or by individual interviews with campus leaders.

STEP 2: Ask interviewers, a workshop group, or a committee to list on the left side of a piece of paper (or state so you can write the items on newsprint) all the sources of support they can imagine for solving that need. Then ask them to list on the right side all the sources of resistance to the solution of the problem. Provide a few examples to give participants the idea: "The Goals Survey says 75 percent of the faculty rate this a top (or bottom) priority"; "We have (don't have) a group committed to resolving the problem"; "Several key leaders are for (against) solving this problem"; "We can (cannot) put some time and money into it." Let the ideas flow freely in "brainstorming" fashion.

STEP 3: Ask the group to look over the sources of resistance and identify one or two key ones which, if reduced, might make significant difference in the institution's ability to solve the development problem.

STEP 4: Design an "action plan" to reduce those sources of resistance.

The advantage of this strategy is that it comes to grips fairly early in the game with matters frequently avoided altogether, such as how can you reward development; how can you persuade skeptics, how can you gain necessary time and expertise and influence when it all seems committed to the *status quo*? Also, the technique is involving, quick and flexible. It can be used in an institution-wide interview and feedback process or in a small committee. It takes little process expertise to manage. It should be preceded, however, by sufficient study that sources of support and resistance are estimates. It also needs enough history of interaction so that the group works well together. (See William Bergquist and Steven Phillips' *Handbook for Faculty Development, Volume II,* (CASC, 1977) for a detailed force-field procedure.)

Action Planning

College development groups are used to formulating proposals for new policies or programs, but many are unfamiliar with the task of preparing a plan to carry out the process of development itself. Development often fails because no good, clear accepted plan was devised for carrying it off. Action-planning is a useful way to fill that gap. It is presented in Sikes, Schlesinger and Seashore's *Renewing Higher Education from Within*, (San Francisco: Jossey-Bass, 1974) (see a description of the cross-impact matrix procedure in Appendix C).

In a brief analysis of over seventy such plans regarding what a team will do next to improve undergraduate education, Lindquist found six ingredients in the ones that were accomplished back on campus. One is the presence of *clear, feasible action objectives accepted by the persons who had to carry them out*. This is what needs to be done: We can do it, and we want to do it badly enough to make some sacrifices in other things to be sure it gets done. A second ingredient is *specific activities* to accomplish the objectives, often laid out in a time sequence. We know not only what we want to do in general but what specifically must take place in the next month or so to get moving on our objectives. Third, are *clear, accepted responsibilities:* I will call the dean; and she will write up a report on our findings; he will conduct that literature search; and she will begin to organize the curriculum development workshop. Fourth, are *specific deadlines* for completion of various activities with benchmarks along the way. Fifth, the plans contain ways to *involve influential other people* early and continuously so they feel ownership for development enough to carry it out or back it. Often, that means redoing an action plan with other groups, but it is time well spent if understanding and commitment broaden. Sixth, the plan *introduces knowledge* *resources*. It is not a call to more talk without more expertise. Use of institutional research, outside consultation, local experts, literature, site visits to other campuses—these were some of the new knowledge resources included in successful action plans.

Here is an actual action plan embodying most of these key ingredients. Its fulfillment led to the approval of a new intensive term calendar at a small college.

Strategies for Change Action Plan

A. *INTRODUCTION:* We propose to do a thorough study of the calendar and to follow up the subsequent spin-offs which might relate to curriculum changes, use of faculty resources, student programs, etc. The calendar study is needed to focus on the following concerns:

1. To develop a structure to evaluate curriculum periodically and to provide for the building of new curriculum.
2. To introduce more flexibility and voluntarism into the curriculum.
3. To increase flexibility in the amount of time needed to complete the degree.
4. To use the campus facilities more efficiently.
5. To lengthen the school year, and hence, increase faculty salaries.

B. *SEQUENCE OF STEPS TO BE UNDERTAKEN:*

1. The Calendar Committee will consider this proposal in the first week of November.
2. The committee members will survey the literature during November.
3. Members of the committee will visit colleges with a variety of calendar models. We will attempt these visits during the first two weeks of November to Hiram College, Ohio; Lycoming College, Pa.; and a trimester model in Pa., possibly Gettysburg College.
4. On November 15 or 22 we will schedule an All-College Workshop. This workshop will consist of late afternoon and evening sessions with faculty and students in which several different calendar models will be presented. Dr. Warren Martin from the Center for Research and Development in Higher Education at Berkeley will be the chief resource person at the workshop.
5. The CUES, IFI and the ECQ will be administered about the third week in November.
6. A list of concerns and questions will be formulated into a questionnaire which will be distributed to administration, faculty and students. The responses of this questionnaire will serve as input to the committee.
7. Following receipt of the questionnaire responses, a Faculty Forum and a Student Forum will be held to produce additional insights for the committee. These forums will be held to produce additional insights for the committee. These forums will be held the first week in December.
8. The results of CUES, IFI and the ECQ will be presented and explained to the college community by the project staff.
9. The Calendar Committee will then attempt to correlate the insights from the college community and come up with a proposed calendar for the college by February, 1972.
10. This model will then be considered by the Long-Range Planning Committee since the Calendar Committee is a sub-committee of this larger standing committee. The proposal will then go to the Academic Affairs Committee and then to the faculty by March, 1972.
11. Spin-off concerns will be identified by the Calendar Committee and procedures will be developed to study these.

C. *BUDGET REQUESTS:*

1. Visits to other campuses by Calendar Committee members: $100-$200.

2. Dr. Martin as resource person for November 15 Workshop: consultant fee, $100; air travel, $312.

SUMMARY

Meaningful curriculum development is not likely to occur unless a significant number of faculty, administration and external supporters sense a real need to change. Yet colleges and universities have very poor sensing mechanisms when it comes to curriculum. There usually are few resources for gaining the necessary information educating those who have influence over curriculum, and conducting the development process.

Several strategies can strengthen institutional or program ability to assess curriculum development needs. One aid is activities to help leaders of various campus sub-groups learn more about educational philosophy and learning theory, then to clarify their own beliefs in concert with other colleagues. Another is systematic data-gathering and feedback regarding the nature of students, programs, learning outcomes and related costs. A third contribution is systematic exposure to the latest thinking and practice in college curriculum around the country, exposure not just for academic administrators, but for everyone who has a say over curriculum development. A fourth informatin source which needs to move from primarily administrative channels into primarily faculty curriculum bodies is evidence of emerging social, political, economic and environmental demands.

If administrative staff and/or action-research teams work with decision makers to generate such information and to expose college opinion leaders to it, several procedures can be used to reach agreements regarding curriculum development needs. Goals surveys and feedback, group interviews and task forces, force-field analysis and action-planning are a few of those procedures presented in this chapter. If all these steps are taken, a college should have a firm foundation upon which to formulate curricular innovation or reform.

CHAPTER 9

Curriculum Formulation and Decision

INTRODUCTION

The dean's council of a large eastern university agreed one day that something had to be done more effectively to handle students who had weak academic records at the end of their sophomore year, but not weak enough to result in dismissal. They put a committee of associate deans on the problem, and that group met several months to study the situation and search out solutions. They found the Bachelor of General Studies programs at the University of Michigan and the University of Iowa an attractive idea, for such a program would allow marginal students to work out degree programs directly tailored to their needs without the stigma of remediation. The deans approved their report and channeled it to the president, who set up a new faculty committee to consider this proposal among others which might lead to an experimental college. The group met several more months and produced a proposal for an experimental college not only for marginal students, but also for all students whose needs were not effectively met by the regular undergraduate curriculum, including honors students.

The president applauded the committee on its proposal and referred it to the university committee on "Curricula and New Courses." This faculty-elected governance body was quite busy, but in the few hours it devoted to review of the proposal, several members of the group, including the chair, expressed concern over "the academic integrity of the new college," whether it would take students away from other programs (where their presence meant budget dollars), and whether it was just another one of the president's "crackpot schemes that will either be worthless or will result in extra work without any compensation." Standards, vested interests, administrative manipulation, rewards: these were the major concerns expressed in and around the curriculum committee.

For the next six months, a group of young faculty, on one hand, and the provost and president, on the other, tried to pry the experimental college/Bachelor of General Studies proposal out of Curricula and New Courses and into the senate. They finally succeeded. After convincing key senate leaders about the merits of the idea and arguing the political and economic necessity of services for marginal students, they managed to get a favorable vote to establish a small, pilot Bachelor of General Studies program to be monitored carefully by a senate evaluation team. The process took two and a half years. The program would involve about 100 of 16,000 undergraduates its first year. Few of the 100 were to be "marginal" students whose problem started the whole business.

This is not the only way curriculum formulation and decision occurred in that university. Two new programs, one called "Contemporary University" (CU) and the other, "University Without Walls" (UWW), were launched by the president with little faculty involvement and with the benefit of foundation development grants. He had assistants do the formulating and he made the decisions. A few young faculty members and interested students joined these programs, but

UWW was voted out of existence by the faculty senate because of rumored irregularities, and CU almost disappeared when the funds ran out. Neither managed to generate enough support within established academic schools and departments to sustain them. A third program, called "Opportunity Scholars" and designed to enable poor, underschooled students (mostly black) to succeed at the university, was designed by a faculty-based R & D unit, run on a grant, and defended by the president. Despite evidence of great effectiveness, this program too stood on shaky ground when the grant ran out and the president resigned. Traditional standards and vested interests were against it.

The purpose of this background is not to suggest that this university's approach to curriculum formulation and decision was ineffective. On the contrary, the processes (slow committees or fast grants) are typical of other colleges and universities, large and small, and this institution made more serious attempts to improve undergraduate education in the early 1970's than many others. Rather, these case examples show the problem we all face in moving from a need to improve curriculum to decisions which represent real commitment among entrenched schools and departments. This chapter proposes ways to go about curriculum formulation and decision, so that institutional understanding and commitment can be increased.

SELECTING FORMULATORS

The first step, after systematic needs assessment, is to put some people to the task of producing a solution to the problem. It is important who does the selecting and who is selected. In both cases, several criteria are worth considering:

1. Credibility among established groups.
2. Interest in solving the problem.
3. Time to devote to the task.
4. Expertise in the problem area.

These criteria are a package. These are easy to remember because their first letters spell CITE. A politically-representative formulation group which does not have much expertise or interest in solving the problem will not be successful. Interested experts who are neither credible to faculty nor administrative leaders, or who have no time to give because they are already on five committees, teaching a full load, and editing a book, are not going to be much help. If the person(s) who selects the formulation group has low credibility (i.e., a dean whose motives or standards faculty suspect), little expertise or interest, and little time to bother with selection, the group has little chance of being effective, except by accident.

Elections are not likely to result in committees adhering to CITE criteria. Nor are executive assignments likely to follow CITE criteria for *selectors*, at least in the eyes of faculty skeptics. An alternative is to have a key executive (dean, chair, president) join a small group of faculty leaders, perhaps persons selected by the faculty in a collaborative selection process. Were selection criteria not so important, such a process would not be needed. Because there often is a committee on committees which expects to control such decisions, and sometimes the situation calls for a standing committee to appoint a sub-committee on the problem, it is a good idea to include in the orientation of standing committees acquaintance with CITE criteria and how to identify people who hold them. A few questions can be helpful:

Credibility

1. What professional standing (degrees, rank, publications, offices, teaching awards) does the person hold?
2. Is the person often selected by his group to represent it in important matters?
3. Does the person have a reputation for insightful and balanced judgment?

Interest

1. Has this person taken an active role in the study and deliberation involved in assessing curricular needs and goals?
2. Has this person been involved in innovative programs before?
3. Has this person expressed interest when approached regarding this project?

Time

1. How many other teaching, research, and service obligations does this person have for the next few months?
2. Can release time be provided, and will the person accept it?
3. Does this person seem willing to work nights and weekends if needed, and has she done so before?

Expertise

1. Is the subject of this curriculum problem in this person's professional area?
2. Does this person have other needed expertise such as writing or oral presentation skills, group leadership ability, statistical or scholarly research skills, or political savvy?
3. Does this person have a good background in educational philosophy, learning/teaching theory, external trends, and other foundation knowledge needed to build curriculum?

One person is not likely to meet all these criteria, but the group as a whole should have within it members who meet all criteria.

Besides selection criteria, committee size is always a problem. If it is too small, it may not possess enough expertise or energy nor represent groups which need representation to produce results that would be trusted. If it is too large, it becomes unwieldy and cannot move from being a collection of individuals representing disparate interests to a team working together to resolve joint concerns. A way to avoid both problems is to use small work groups, of three to six persons, for most activities but have a larger body from which work groups can be drawn and to which work groups can report or gain advice and counsel. That essentially is the standing committee/sub-committee division of labor, the administrative council/cabinet notion, the senate/executive committee model. The important point is not to try to get close coordination and sustained effort out of a group of twenty. Such an effort is more likely to come from a group of six.

BUILDING A TEAM

Individuals, no matter how well-selected, will not constitute a smoothly functioning task force unless explicit attention is given to their development into a team. Typically, while one person is trying to set the agenda, another is proposing the *only* viable solution, a third is asking "What's the problem?", a fourth is sharing a long anecdote from teaching experience, and a fifth is restlessly looking at his watch. After an hour of such confusion, the committee's work is re-scheduled until the following Wednesday at 4:00 P.M., for a rematch. In consequence, committee membership grows frustrating because it isn't getting anyplace: "George will never get off that sawhorse about the Oxbridge system. I haven't heard a new idea in weeks. Whenever will we get organized? It is so *boring*."

Most of us have been on a committee like that and have contributed our share to that kind of tedium; but the pain can be reduced and the productivity increased with some attention to the dynamics of effective task groups, which is what formulation committees are. The following tips and exercises are designed to help a potentially ineffective committee become a productive and enjoyable team. They are not guaranteed to work, but considerable research on group effectiveness supports such procedures, and college teams which have used them find such activities valuable.

Personal History and Interests

Team members may know something of one another, but there is much they do not know which could be helpful to the team. Also, starting a group with some attention to the people in it sets an appropriate tone. These five or twelve persons are going to have to get along and make use of one another if the team is to function well. Here is a simple exercise to begin to discover the human resources in the group. It establishes acquaintances, generates useful information, and practices listening skills. A leader is needed to run the exercise, but that person also can participate.

STEP 1: Ask each person to pair with a person she doesn't know very well, *in relation* to the group's general assignment. Encourage pairs to assemble so they don't interfere with one another's hearing.

STEP 2: Ask each person to explain to the other what expertise he brings to this topic and encourage pairs to probe. Sometimes it may seem you don't have much to offer when you actually do. Allow twenty minutes for that sharing.

STEP 3: Ask each person to explain to the other what particular interests she brings to the group. Is it just an assignment you learned on Monday, a concern you have had for some time, or a need to fulfill some committee obligation? Encourage candor. No one will tell the dean (unless she is in one of the pairs, in which case a little humor helps). Allow about ten minutes, five per person.

STEP 4: Ask each pair to join one other pair. Once foursomes are settled (or one group of five or six if your team is small), ask each person to introduce his partner's background and interests to this group. (Aha! I should have been paying attention to my partner instead of preparing my own speech.) Keep this introduction partially a secret until this point in order to solicit the proper groans and moans. A major problem in most groups is that people spend more time speaking or thinking what to say next than in really listening to what other people have to say. This exercise is a painless way to begin to make *real listening* a thing we do. Allow twenty minutes for the introductions.

STEP 5: Ask the team as a whole to report the background experiences, knowledge, skills, and interests of the group. List these on a blackboard or newsprint so everyone can get a mental image of the same list. The team will need to add knowledge, skills, and interests as the group gets into its work, but that initial list should give a general set of resources and a fairly positive feeling regarding the strength of the group. Don't lose that list! It should take no more than ten to fifteen minutes to complete this step.

STEP 6: Invite comments on the usefulness of the exercise. Most comments should be favorable, but some participants will find it artificial and a waste of time because "we did not get right down to business." Academicians are used to sitting down and starting to express themselves to the group as a whole, with little attention to whether they know or use the resources of the group. Inviting reactions may not assuage this concern, but it does set the precedent that attention will be paid to the effectiveness of the way we work—what group dynamics people unfortunately call "processing" or "debriefing."

What's the Problem?

The team may or may not have an explicit charge from whoever set it up. Whatever the case, each team member is likely to come to the group with some preconceptions: "This is a charade to support a decision the president already made," or "the real problem is not how to serve older students, but how to serve the liberal arts." If everyone has her own perception of the problem, the team will spin in circles while each member tries to get his definition accepted. Here is a simple technique to avoid that wasted time. Again, a leader is needed. Anyone might volunteer so that members begin to feel comfortable sharing leader functions. Prior to the exercise, ask team members to read available materials regarding the problem area assigned the group. That may include reviewing most of the information that went into needs assessment, so allow some time out of meetings.

STEP 1: Ask, "What's the problem? Why are you here?" Encourage anyone in the group to answer. Write an abbreviated version of the answer on the blackboard or sheet of newsprint in the form of a "How to . . ." statement. For example, if someone says, "The problem is that students can't write," you write "How to improve students' writing ability." Check with the person who made the statement to see if your version fits his meaning.

STEP 2: Ask again, "What's the problem? Have we got it, or is there more to it?" There usually is. Write the next response down in "How to . . ." form and check your accuracy. Ask again, and again, and again, until no one has any other versions to add. It often takes quite a few versions. Problems rarely are one-dimensional, and perceptions rarely converge right away.

STEP 3: Ask the team to analyze the list. Do you have certain clusters of response in the same problem area, say around student needs or financial stringencies or academic quality? Seek to reduce the statements to a few major categories. Hold off debate by saying the accuracy or priorities of various statements will be taken up next. (People tend to want to defend their own versions early in this activity.)

STEP 4: Number the problem statements or categories, then ask each team member to write the numbers on a piece of paper, and rate each as follows: NOT A PROBLEM, 1; A PROBLEM, BUT NOT A KEY ONE, 2; A KEY PROBLEM, ONE WE MUST SOLVE, 3. Quickly tally the scores and write the totals next to the problem statements. Those statements with the highest totals may reflect the greatest concerns within the team as a whole. Discuss that possibility.

STEP 5: Develop with the group an action plan either to get to work on problem areas of high consensus or to study the situation more thoroughly in order to arrive at greater agreement about what needs to be improved or changed.

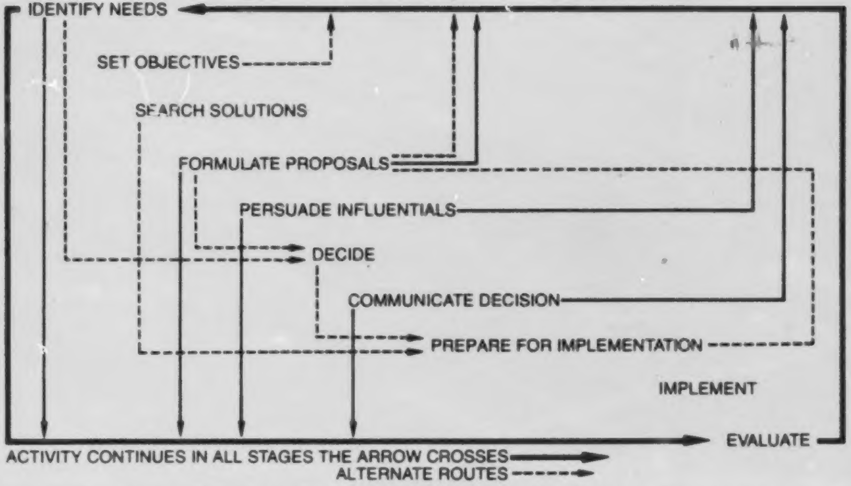
This exercise can be frustrating and time-consuming, but not nearly as time-consuming and frustrating as failing to get these differences out in the open and confronted. If preceded and followed by systematic study of the problem, as opposed to repetitive argument, this specific activity should move the team to a fairly solid and accepted understanding of the curriculum problem they are to solve.

TEAM ROLES AND TASKS

Persons often serve on committees or teams without any orientation to the possible roles and functions of such groups. Figure 1 indicates most of the problem-solving functions a team might attempt: identifying needs, clarifying objectives, searching and retrieving information, formulating solutions, gaining acceptance, making decisions, preparing for implementation, implementing and evaluating. Most committees are charged only with searching out and formulating solutions to problems given them by some authority. But in their own work, they will go through the full problem-solving cycle dozens of times as they consider what to do next, decide, do it, and evaluate where that particular piece of business got them. On occasion, a team will assist curriculum reform through every step of the institutional problem-solving cycle. That is a particularly strong approach, for it focuses consistent and skillful energy by a concerned group until improvement finally occurs, instead of disbanding a committee after it submits its report, thereby wasting all the knowledge, skill, and concern the group has developed.

One developmental need within the team is to learn how to do all the tasks in the problem-solving cycle. Chapter Eight and Appendix C cover many need-identification, goal-setting, and information gathering approaches, each of which an action-research team may have conducted or facilitated. Other tasks will be discussed in this chapter and the next. A major issue, however, is what role the team is going to take in relation to the rest of the program or institution. Is it going to try to do the thinking for the institution? That is the traditional committee role. The committee goes off by itself to study the problem and returns with a solution which, in effect, tells the institution what to do. There is something to be said for this approach. A well-selected committee given substantial time and staff can look in-depth into a problem and its solutions, and has a better chance of building a soundly grounded and coherent solution than a large governance body or a single individual. Figure 2 depicts this "Solution-Giver" role.

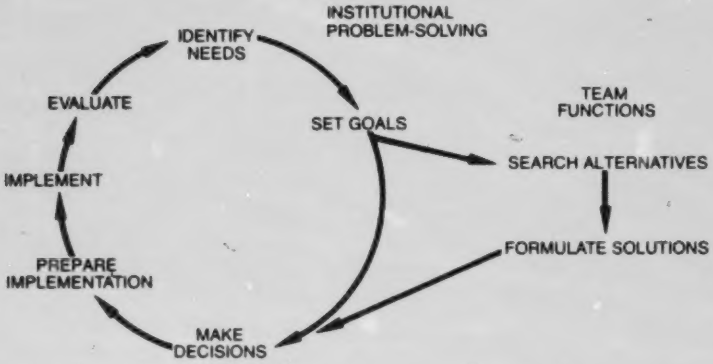
Figure 1: The Development Process



One problem with this traditional committee role is that professionals do not really like their thinking done for them, and they do not share the committee's learning. All they get is the final product, which they attack with all the biases that committee members probably had early in their own deliberations. In consequence, the committee feels abused and the rest of the institution feels threatened. This problem is not cause for abandoning the depth and efficiency of committee proposal development, but rather, is reason to add other functions to the team.

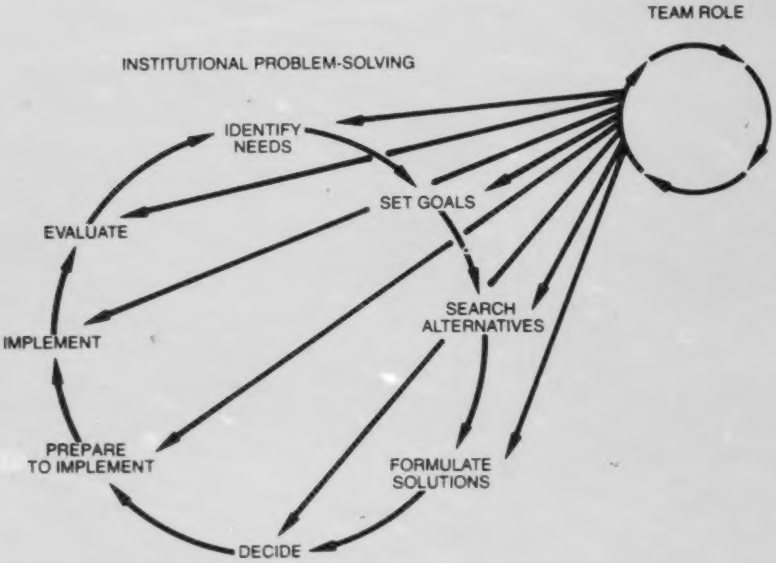
An alternative developmental role is that of Catalyst and Facilitator of institutional or program problem-solving. Figure 3 depicts this role. The team stimulates action, helps structure and guide it, brings information and expertise to bear on it, keeps it moving, helps resolve conflicts in it, trains institutional members for it, but does not do the thinking for members of the institution. The team is not another standing committee or administrative office. It is a group which contributes development skills, knowledge and concerns to help these structures work openly, knowledgeably, and efficiently. The role is similar to that of the professional development coordinator or team. For professional development, coordinators do not do the developing themselves, just as the curriculum development team does not do problem-solving. Rather, it stimulates and facilitates that development process. With so little institutional time and skill normally devoted to catalyzing and facilitating program renewal, and with administrators being generally distrusted if they try to serve these functions, an action-research team can play a vital role.

Figure 2: The Solution Giver Team Role


INSTITUTIONAL
PROBLEM-SOLVING
IDENTIFY NEEDS
SET GOALS
MAKE DECISIONS
PREPARE IMPLEMENTATION
IMPLEMENT
EVALUATE
TEAM FUNCTIONS
SEARCH ALTERNATIVES
FORMULATE SOLUTIONS

Of course, the team may be assigned to be both thinker and facilitator. In the action plan included in Chapter Eight, the college team was charged with examining alternative academic calendars and proposing one most appropriate for that college. As the early action plan shows, it decided to combine Figures 2 and 3. It studied the situation, traveled to colleges with alternative calendars, brought in an expert on the subject, discussed the alternatives, and wrote a proposal. But it also held college workshops to study data on institutional effectiveness; shared the results of its campus visits in a faculty forum; had the expert make a general presentation of alternative calendars to the college; solicited college opinion on alternatives; shared proposal drafts in open meetings to invite critique and advice; helped set up an implementation coordinating committee; and then remained together when the new calendar was approved both to help evaluate it and to stimulate new college actions to meet the objectives of calendar change: more flexible teaching and learning. In effect, the

Figure 3: The Catalyst/Facilitator Team Role


TEAM ROLE
INSTITUTIONAL PROBLEM-SOLVING
IDENTIFY NEEDS
SET GOALS
SEARCH ALTERNATIVES
FORMULATE SOLUTIONS
DECIDE
PREPARE TO IMPLEMENT
IMPLEMENT
EVALUATE

team collaborated with the rest of the institution in meeting those objectives. Before long, faculty development and contract learning arose, assisted and partially developed by the action-research team.

For more information about these "change agent" roles and how to plan them in educational settings, see Ronald Havelock's *A Guide to Innovation in Education* (Ann Arbor: Institute for Social Research, 1970).

TEAM DYNAMICS

Humans have certain needs, such as the desires for affiliation, power, and achievement, and they bring these needs to committees, in varying proportions depending on the individual. Everyone has some interest in being accepted in the group and in finding social enjoyment in meeting together, although many college committees act as if such needs are unimportant. No effort is made to help group members feel that they belong to an enjoyable group. Everyone has some interest in having a say over what the group does. These needs often are more visible than affiliation needs and are discussed as gossip, but rarely is the individual need for power given legitimacy in the group and made to work for the group's goals. Finally, everyone has some interest in getting something done, especially the poor chairperson. At times, as arguments are repeated and no one fulfills assignments between meetings, it may seem that the team has no achievement drive worth mentioning, but more likely it has not found an effective way to work.

There are many exercises and activities which can help a team become more effective and enjoyable. A useful handbook on that score is Matthew Miles' *Learning to Work in Groups: A Program Guide for Educational Leaders* (New York: Columbia Teachers College Press, 1959). The following is just one kind of activity you might use to identify and improve team dynamics.

Team Observation

STEP 1: Ask one or two members to spend the next twenty minutes of team time observing how you work together. (The first time that observation is used, announce it to avoid distrust. In subsequent meetings, simply ask a member or two to observe any twenty-minute segment [team willing] so the natural dynamics of the group are not changed to give a handsome picture to the observer.) Give each observer a copy of the form shown on page 149. Tell the observers to put a check under each team member's name in one of the categories every time that team member speaks or a non-verbal cue suggests a category (e.g., nodding, holding up hands in a "time-out" sign). The last category is the toughest, for no one wants many checks there, but observers should be candid, perhaps using a little humor to lighten the strain. It is the most devastating category if ignored. Mention to observers that making checks is an act of judgment on their part. Agreement among two observers will help test those perceptions, as will later discussion. They may want to keep notes on specific behaviors which led to frequent checks in one category. You may or may not show the form and categories to other team members before the exercise. If they give permission, do not show it so they will not play to it.

STEP 2: Have committee or team members go about their business for the next 20 minutes.

STEP 3: Ask each observer to report her findings. How many checks were in each category for the team as a whole? Is this mainly an opinion-giving group with a lot of behavior which seems to discourage participation and not much structure, or something else? Individual feedback is more threatening than reports to the group as a whole, so observers may give it only if a member requests his own score or if certain persons have acted consistently in an ineffective manner and the team finally wants to let them know whether these persons want to hear or not.

STEP 4: After observer reports, discuss the information. Does it seem an accurate picture of us, of me? Do we (I) want to change anything?

BEHAVIOR	NAME	NAME	NAME	NAME
Provides Structure: Agenda setting, calling on people, asking for one person to speak at a time, assigning tasks, keeping on schedule, etc.				
Clarifies and Summarizes: Make statements to help the group understand what is being said and what has been done in the group, etc.				
Introduces Information: Research and theory, practices elsewhere, personal experiences, evidence of local practices or external pressures, etc.				
Gives Opinion: Personal ideas, assumptions, interpretations, evaluations, often prefaced by "I think," or "We should," etc.				
Encourages Participation: Agrees with other statements, seeks information or opinions from others, smiles or leans toward other members, points out helpful act, etc.				
Discourages Participation: Dominates discussion time, interrupts others, disagrees consistently, speaks after every previous speaker, frowns, sits away from or stands above others, etc.				

KEEPING OBJECTIVES VISIBLE

A committee easily can forget what it wants to accomplish, for its task usually is to formulate means, rather than ends. Early in its life, the group should review whatever needs assessment and goal-setting led to establishing the group. It may do some of the diagnostic and objective-setting activities described in Chapter Eight to clarify its own intentions. Also, the group should stop other work on occasion to ask itself the following questions:

1. What are we trying to accomplish?
2. What has our current behavior to do with those objectives?
3. What is getting in the way of accomplishing our objectives?
4. How can we become more effective in attaining our goals?

A fifteen-minute discussion of such questions every once in a while can keep the team on track. Other team-building exercises can be found in Matthew Miles' handbook referred to under "Team Dynamics."

INVOLVING THE INSTITUTION

Curriculum proposals developed in isolation have no chance to warm up the people who decide their fate. Also, a committee separated from other institutional members has no good way to tap their experience and expertise. If possible, then, it is wise to avoid presenting proposals as expert, eager sellers to skeptical, uninformed buyers. Your audience is likely to say, "This is your idea, not mine. Convince me." Unfortunately, conviction usually grows out of those months in committee meetings. It cannot be recreated on the floor of the faculty senate by the most skilled presentor. Also, certain "lower level" concerns, such as "What money, status, students, prestige and time is this proposal going to cost me and my group?" These are best confronted early, and not left to be the unspoken reasons for later defeat of the proposal.

The lesson is to involve influential members of faculty, administration, trustees, and external funders early and often in your development of change proposals, short of becoming a nuisance. One way, of course, is to carry out participative needs assessment. Another is to assign certain campus groups to each member and ask that they keep those groups informed and solicit their advice. This procedure is often agreed upon in committees but seldom carried out. Make a detailed action plan and ask for reports about external concerns and ideas at the beginning of meetings. Short workshops, which share alternative solutions with faculty and administration, can broaden involvement. So can including key opinion leaders in trips to alternative programs or conferences. Asking for time in senate or administrative council meetings to describe committee progress and encourage advice can also help as can questionnaires and interviews asking key leaders their preferences and consultation. So can holding open meetings with concerned campus groups and making periodic reports in campus newspapers. Circulation of readings the team finds helpful and holding consultant presentations involving people beyond the committee are other useful ideas. All this involvement takes time and can be done badly by lack of planning, by not listening to advice, by becoming defensive, and by involving certain groups but not others. But if done well, this kind of involvement can make major differences in the worth of, and receptivity to, eventual proposals.

Active Openness

A major problem with committees is that their members sometimes do not pay much attention to anything other than their own views. They agree only when others agree with their own biases. They attack information which challenges those biases. They can see all the ways programs other than their favorites won't work. Their door is always open if you come to them. Academicians have been trained and rewarded for being experts and critics, not open learners. It is hard to shift hats, even though committees must learn new things in order to resolve old problems.

What follows is a modification from "creative problem-solving" practices which academic groups have found helpful. Establish two rules for the next half hour of a meeting (of the team itself, of the team and outside groups to which it wants to be open).

Openness Rule 1: After every statement, the next speaker must share with the prior speaker his understanding of what was just said, then check with that person to see if he heard and interpreted correctly.

Openness Rule 2: After paraphrasing the last statement, the next speaker must say three things he finds helpful in that statement before criticizing, offering other views, changing the subject, and so on.

It is hard for academicians to do, and it probably will take an inventive leader to stick to the rules for five minutes, let alone a half hour. But it can make a vivid impression on committee members regarding how much they distort what others are trying to say and how little they try to move toward the views of others before heading off in their own direction. This exercise, of course, can be employed when examining a proposal. Clarify what is meant, and what is helpful about that, before other business.

Another exercise to practice active openness is this:

Openness Rule 3: Physically move toward other people and information rather than waiting for them to move toward you. Lean toward the person speaking in your meeting. Move around the tables or desks or lecterns which stand between you and your audience. Go to the other person's office instead of having him come to you. Go to the library or research office to get information. Visit other campuses. Now, there are limits to how far you physically can move toward someone else. We all have our security zones. But there is usually plenty of room between where you are and those boundaries. Physically moving toward ideas or information of others can result in greater mental and emotional openness.

OPINION LEADERS AND REFERENCE GROUPS

The importance of opinion leaders and various campus and extra-campus reference groups has been discussed many times in this section, and for good reason. Extensive empirical research has found that innovations (ideas, behaviors, attitudes, technologies new in the eyes of their audience) start with eager "innovators," but these persons are rarely five percent of any social system. If change is to occur, people with established influence must become interested. The first such group is usually cosmopolitan, well-tuned to literature in the field (in this case, college curriculum), well-traveled, and with a personal network of contacts far and wide. They comprise about ten percent of the system and will also be influential locally. They are called "cosmopolitan-locals." Harvard's David Riesman is a prime example.

Many academic administrators are in good positions to play such roles, but a few faculty members also will be opinion leaders for colleagues. Often they are current in curriculum developments. They identify with their institution and participate in administrative offices or governance groups which can take action on ideas. Some are influential in their departments. To curriculum developers, they are invaluable on curriculum development teams and should be closely consulted during formulation, whether they are directly involved or not. They can open doors to decision making groups and departments. A useful strategy for connecting with such people is described in the brief case below.

The Tuesday Night Discussion Group

A few young college faculty members motivated in part by the student movement of the late 1960's, wanted to make undergraduate education a more vigorous, student-oriented affair. But they had little influence in key faculty or administrative councils. So they got together at a different person's house each Tuesday night prior to the faculty senate meetings (each had managed to be elected from his department to that body) to discuss the agenda and decide how to help their cause. One by one, they invited into the group (by determining who among themselves knew a leader, then having that person make a personal invitation) major committee chairpersons who also wanted to improve undergraduate education. Before a crucial issue came to the senate floor, they talked to influential senate leaders, shared their information with them, and urged them to take active part in discussion. They sought spokespersons with credibility among traditionalists, something some of them lacked. In anticipation of new senate elections, they identified persons who were widely respected but were also open to undergraduate reform and urged them to accept nomination. In a year, they had helped push through a major innovation and had "Tuesday Night Discussion Group" members chairing most of the important senate committees. It was an open process, and most of the group tried to move toward other views while persuading. One critic called them "self-annointed keepers of the flame," but participants found the discussions and the innovation-to-governance strategy most effective.

PRESENTATION GUIDELINES

When a curriculum proposal is finally ready for review and decision, it is well to keep several communication factors in mind. Put the following checklist against your written document.

1. Relative Advantages

Does the proposal clearly spell out what the problem is and what advantages your proposal has over the most salient alternatives, including the *status quo*? What evidence of need and of your solution's effectiveness are included? What about costs, human as well as financial? Do not exaggerate advantages. Your audience is loaded with expert critics. But state your case as impressively as you can.

2. Compatability

Does the proposal fit existing organizational structures or threaten them? Does it fit traditional academic standards or challenge them? Does it fit staff knowledge and skill or require that they learn new ways? Does it fit existing facilities and materials? Must the workload and reward system be changed? How about the registration system and the catalog? The more incompatible your proposed curriculum is with current practices, the more resistance it will face (see a description of cross-impact matrix analyses in Appendix C).

3. Complexity

Is the proposal simple to understand and do or so complicated that it takes hours just to describe? Is the language simple? The easier your proposal is to understand and do, the better are its chances for acceptance.

4. Divisibility

Do we have to accept the whole thing at once? A proposal which says, here are the things which must be done right away, here are desirable things that should be adopted soon, and here are next steps worth keeping in mind, has a good chance if the essentials are not overwhelming. Of course, you must persevere in order to get the rest of the package eventually adopted. Also, a proposal which allows for some picking and choosing by adopting groups has greater acceptance potential than a one entree menu.

5. Observability

Can you see this curriculum in action? Not in a proposal, unless it provides word pictures of how the curriculum works; that helps. If reviewers can see a similar curriculum in action, that helps too. Simulation, role playing, slide-tape presentations, and films also bring the physical, as well as the mind's eye into play. A curriculum can be a very abstract thing—hard to appreciate—without some observation.

6. Trialability

Can you give it a low-budget, low-risk trial with a few student and faculty volunteers before deciding whether to continue or expand the program? Perhaps there is a little grant money for such a trial so you don't have to worry about personal sacrifices until you know it works in your situation. Many new curricular programs begin life as pilot trials. The problem, again, is to keep persuading during implementation so that institutionalization eventually occurs.

7. Credibility

Is the presentor of your proposal respected and esteemed among the persons who sit in review? Does your proposal note highly regarded institutions which use the kind of curriculum you propose and prestigious experts or journal editors or accreditors who applaud it, without being a parade of stars?

8. Communicability

Are main points easy to find? Is the proposal or presentation easy to follow? Are illustrations timely and appropriate? Are the document and presentation professional but not Madison Avenue slick? Is the message put into language and style familiar and comfortable to the audience? Are the proposal and presentation long enough to present the substance but short enough to maintain attention? Have you communicated a variety of ways to increase changes that the message gets through?

Each of these factors is an important ingredient in determining whether new ideas get accepted or rejected. A useful book on the subject is E. Rogers and F. F. Shoemaker's *The Communication of Innovations* (New York: Free Press, 1971).

There are also several factors which are important in the presentation process, or the way you introduce your curriculum proposal to the rest of the institution. One such factor has been discussed, *working through opinion leaders and authorities into their reference groups*. Another is practicing *active openness* to the views and concerns of reviewers. A major factor, however, is how close to the easy exchange of one-to-one conversation among friends you can make the process. Here is a procedure to help accomplish that form of interaction.

Personal Interaction

Researchers find that highly innovative and open people will adopt a new idea that they learn through such formal media as written reports, articles and books. But that is a very small group in your or any other institution. Most persons can be made aware of innovations through impersonal channels but will not become interested or willing to try the new things unless they engage in personal interaction with trusted colleagues and with credible others who support the idea. This finding means you will not win over many people by merely writing a proposal and sending it through campus mail. That is only the start. Send team members to influential people they know to personally discuss the proposal and encourage such leaders to discuss it with others. When making a presentation to a review committee or senate, break down the formal distance by trying this:

STEP 1: Send the proposal to the review committee a week before the meeting is scheduled to consider it. Be sure to include history and evidence relating to the institutional problem and alternative solutions so that recipients can make well-informed judgments concerning the proposal itself.

STEP 2: Have team members visit key members of the review group, preferably persons with whom your members are personally acquainted, to explain the proposal, answer questions, and receive counsel on how best to introduce the proposal. Avoid heavy persuasion in such contacts. You are not lobbying—which academicians often distrust—but are informing and being advised.

STEP 3: Ask the review group chairperson for permission to design the presentation portion of the review process. Note you will need a half hour to an hour (depending on the size of the review body), but such a length of time is minor in relation to the importance of the decision and the amount of time spent on this problem to date.

Arrange the review body into small groups, each with a member of your team as moderator. Assign review persons to small groups with team members in their general institutional reference group so they can discuss the proposal's implications for those groups. In a small committee, these presentation groups may be one-on-one. That's fine. In senates, the ratio may be one to ten. Give large groups more discussion time, for more people will want a say. Review bodies may find this arrangement unusual because it is not the normal way they work. You may want to kid a bit about "the ruts we get in," but explain that you feel you can present in greater depth and with more interchange this way, and that each team member is as knowledgeable as another regarding the proposal.

STEP 4: Have your most broadly credible and/or skillful presentor give a brief introduction to the proposal for the whole group (now listening from their small groups). Be sure everyone has the proposal in hand. Explain briefly three things the committee concluded with involvement of the broader institution: 1) the nature of the problem; 2) the purposes of the formulation; and 3) the reasons for selecting this proposed solution instead of an alternative. Indicate that questions can be answered by group leaders.

STEP 5: Have small group leaders focus attention on the *problem*, the *purposes* and the *alternatives* step by step. Is that a problem? Are these objectives important? Is the proposal most suitable given the alternatives? Engage in discussion for fifteen minutes (for one-to-one discussions) or a half-hour (for one-to-six discussions).

STEP 6: Ask each group to build two lists: 1) the reasons you should approve this proposal and 2) the reasons you should defeat the proposal or refer it back to committee. Discuss possible ways to alleviate the second group of concerns. Spend fifteen minutes to one-half hour on this task.

STEP 7: Have a recorder from each group report on the remaining lists of positive and negative reactions. Make a general list, noting redundant reactions across groups. This process should take about fifteen minutes.

STEP 8: Turn the meeting back to the chairperson for formal decision in accordance with that decision body's procedures. Hopefully, a fully informed and reasonably open decision should take place.

SUMMARY

The process of formulating a curriculum proposal and gaining acceptance of it usually involves an isolated formulation and a stultified review. Several approaches can help make proposal development and review a more open process.

Those who formulate proposals should be credible and interested, have time to give, and be expert in the subject. They should do most of their work in small task groups. They should learn about and tap the relevant backgrounds and interests of their members, seek to reach agreements on the problem at hand, set clear objectives, and pay attention to the dynamics of the group. They might act as "solution givers" to the rest of the institution or as "catalyst/facilitators" for institutional problem-solving, or both, but whatever role they take, they should actively open themselves to the advice and concerns of outside groups while sharing development of their own proposal with opinion leaders and authorities. In making presentations, they need to express as impressively as possible the relative advantages of their plan and its compatability with existing structures, values, standards, and vested interests. They need to make their proposal as simple as possible to understand, divided into a sequence of easy steps, visible and able to be tested out, and effectively communicated. The presentation process itself should move through opinion leaders, be open, and encourage close, informal, personal interaction.

These suggestions should be helpful in moving from an assessed need to develop new curriculum to an accepted proposal. Other books such as those by Rogers, Miles, and Havelock provide a great many more suggestions and techniques.

CHAPTER 10

Implementing and Evaluating Curricular Reform

INTRODUCTION

A small midwestern college spent the better part of two years considering whether to change its curriculum. A prime motivation was declining enrollments, but some faculty members and administrators saw a need to individualize the learning process, economic crisis or not. Finally, after several false starts and much debate, the faculty almost unanimously approved a program called Individualized Educational Planning. Each student would design her own undergraduate learning experience with the guidance of a faculty advisor and the review of a three-member faculty committee. Traditional courses, independent study, field experiences, tutorials, and other means could be selected as long as they fit students' objectives and satisfied the review committee. Every student would be on "IEP" within four years.

Two years after approval, half the student body, as planned, had individualized degree plans but very few had learning experiences which were different from the traditional fare. The new curriculum had been implemented in name but not in practice. This college is not unique. Gross, Giacquinta and Bernstein carefully studied implementation in a school which was committed to establish the open classroom concept but which really deviated very little from past practices.[1] Berman and McLaughlin document many cases in which often lavish federal infusions of money for the purposes of educational innovation disappeared into presumably innovative schools, sometimes without a trace.[2] The Ford Foundation painfully found out its expenditures on educational reform in the 1960's changed little.[3]

Researchers are slowly discovering that a decision to change is not change. Genuinely committed and able implementors must be found. The decision must be communicated to them in ways that create consistent understanding and appreciation. They will need a well-designed plan of action both for the curriculum and for increasing institutional acceptance of it. Adequate facilities and materials must be provided. Implementors must have sufficient time free of other demands. They must be helped to learn how to do the new curriculum. They need able and trusted leaders. They need early information on how they are doing and help in improvement. They need adjustments in reward systems so they can derive personal payoffs from new ventures. They must learn how to work together. They need solid financial and political support at the top of the institution, faculty as well as administrative. They need an organizational climate which supports risk takers and does not penalize people who admit that they need help to do the right thing. Without such aids, a promising merger of new idea and institution is likely to end in an ineffective relationship.

A shorthand for many of these ingredients in successful implementation spells PIECES: *p*lan, *i*ncentives, *e*xpertise, *c*limate, *e*valuation and *s*upport. Develop a concrete, feasible acceptable plan which delineates how the curriculum is going to be implemented. Provide rewards for those involved in and affected by this change. Increase the knowledge, understanding and skill needed to implement this curriculum. Establish a climate of openness, trust and collaboration within the program as well as between it and the larger institution. Begin early to gather evidence about students, staff and program effectiveness. Use that evidence as a basis for improvement and an argument for acceptance. And begin right away to strengthen support for the program among its staff as well as among key influentials outside. In short, start picking up the implementation PIECES.

PLANNING A NEW PROGRAM

There are two kinds of plans necessary in implementing a new program. One is the program design itself. The other is the implementation plan. What are we going to do? How are we going to do it? Both of these questions will have general answers which were developed during proposal formulation. But rarely does the approved proposal have sufficient specificity in what needs to be done and how to guide implementors. An early implementation activity, therefore, should be program planning. The following is a set of activities which describes ways to begin developing specific program designs and implementation plans. It may be done in one extensive workshop or a series of nine meetings.

Planning for Implementation

Objective: To develop initial program design and implementation plans for a newly-approved curriculum.

Participants: Key members of the formulation committee or team, the faculty governance bodies which approved the plan, the executive administration (financial as well as academic), those persons assigned initial responsibility for implementation, and at least several students who are interested in the program. A total of ten to fifteen persons. Invite advocates and moderate critics. Avoid staunch opponents at this time.

Consultants: Experts in the particular type of curriculum, in curriculum design, and in program implementation.

Setting: A "retreat" site removed from routine pressures and a congenial place to build an enjoyable sense of community among participants.

STEP 1 (PREPARATION): Send a joint invitation from the highest level of faculty governance and administration. Upon acceptance, send a summary description of the *need or problem* the new curriculum addresses, the *purposes* of the program, the *program* itself inasmuch as it is developed, and the *arguments pro and con* which occurred during its formal reviews. Also send a copy of this handbook on curriculum development as background reading.

STEP 2 (BACKGROUND): As a warm-up activity, ask each person to *recount the nature of his or her involvement in this curriculum development to date*. Go one by one around a circle of participants. How and why did you get into this activity? What did you try to accomplish in your involvement? How do you feel now about your role in this project to date?

STEP 3 (OBSTACLES TO ACCEPTANCE): Ask the group members to state the *obstacles to approval* which they witnessed. List these on a sheet of newsprint or one side of a blackboard as persons speak out. Then ask what arguments, evidence, or *actions helped reduce or overcome these obstacles*. List these responses opposite the obstacles they address. Arrows can be drawn to more than one obstacle addressed by a response. Discuss the two lists. Then ask, *What obstacles to full acceptance of this program still remain?* Put those answers on a fresh sheet of newsprint or blackboard.

As a last step, have the group or sub-group design an action plan to reduce major obstacles to implementation. Specific objectives, tasks, responsibilities, and deadlines should be delineated. Use the action-planning description in Chapter Eight as a guide.

STEP 4 (THE NATURE OF OUR STUDENTS): A good early activity during an implementation workshop is to take a look at the students whom this program aims to educate. Distribute whatever written materials and data are available about prospective enrollees. The student members of the workshop become invaluable "live data" during this activity as well as knowledgeable reporters concerning other student needs and interests. Ask someone with expertise to give a brief lecture (15 minutes) on the general nature of student learning needs, objectives and learning styles. Then engage in discussion about the probable variety of needs, objectives and styles among the students who are likely to enroll in the program. Include an exercise on learning objectives and styles such as those included in the Bergquist and Phillips *Handbook on Faculty Development*[4] so that participants get a first-hand look at their own learning objectives and styles while learning techniques for determining the objectives and styles of students who do enroll in the new curriculum. Ask persons to complete the sentence "Students learn when . . ." and write the answers on newsprint or blackboard. Ask that these conditions for learning be kept in mind during the next activities.

Once again, have the group devise a concrete action plan with the objective to help implementing staff learn more about the needs, goals and learning styles of their students.

STEP 5 (CURRICULUM OBJECTIVES): With student needs and objectives fresh in mind, participants need to nail down the new curriculum objectives. Start with a brief lecture by a knowledgeable person regarding ways to set learning objectives so that they reflect student and program purposes while providing explicit guidelines for the design of learning activities and evaluation. The Halliburton section of this handbook can be used as a guide. Then divide the group into five pairs or trios, each to consider one of five kinds of learning objectives: knowledge, understanding, skills, attitudes and values. Ask each pair or trio to specify several specific learnings for each kind of objective. Ask them to keep student objectives in mind. Note that these objectives pertain to student learning outcomes from the program as a whole experience, not from any particular part of it such as a core.

This particular exercise is adapted from Malcolm S. Knowles' *Self-Directed Learning* (New York: Association Press, 1975), and explanation of the terms can be found in that book. Another particularly useful guide to thinking about intellectual and ethical development objectives is Arthur Chickering's *A Conceptual Framework for College Development* (Center for Individualized Education, 28 Union Avenue, Saratoga Springs, New York 12866.) Have each sub-group report its work back to the whole. Discuss disagreements and either modify or drop objectives about which there is strong conflict.

Assign a volunteer or group of volunteers to refine this statement of program objectives as a working guide to implementation and evaluation. This refinement can take place during the workshop if it is a long one or following a shorter meeting.

STEP 6 (LEARNING EXPERIENCES): Now turn the group's attention to the design of learning experiences appropriate to the objectives. Because prior experiences tend to make us assume that college-level learning takes place only in lectures, labs and discussions related to textbooks and taught by professors on college campuses, spend some time considering a fuller range of alternatives for each kind of objective. The following, for instance, are possibilities in each of Knowles' areas, adapted from his *The Modern Practice of Adult Education* (New York: Association Press, 1970, p. 294).

BEHAVIORAL ASPECT	CONTENT AREA
TO DEVELOP KNOWLEDGE ABOUT: (Internationalization of information.)	1. ____________ 2. ____________ 3. ____________ 4. ____________ 5. ____________ 6. ____________ 7. ____________
TO DEVELOP UNDERSTANDING OF: (Application of information to other contexts and generalization.)	1. ____________ 2. ____________ 3. ____________ 4. ____________ 5. ____________ 6. ____________ 7. ____________
TO DEVELOP SKILL IN: (Incorporating new ways of performing through practice.)	1. ____________ 2. ____________ 3. ____________ 4. ____________ 5. ____________ 6. ____________ 7. ____________
TO DEVELOP ATTITUDES TOWARD: (Adoption of new feelings through experiencing greater success with them than with old feelings.)	1. ____________ 2. ____________ 3. ____________ 4. ____________ 5. ____________ 6. ____________ 7. ____________
TO DEVELOP VALUES OF: (The adoption and priority arrangement of beliefs.)	1. ____________ 2. ____________ 3. ____________ 4. ____________ 5. ____________ 6. ____________ 7. ____________

TYPE OF OBJECTIVE	APPROPRIATE LEARNING METHODS
Knowledge:	Lecture, television debate, dialogue, interview, symposium, panel, motion picture or slide-tape, recording, book-based discussion, reading, programmed instruction.
Understanding:	Audience participation, demonstration, dramatization, Socratic discussion, problem-solving project, case method, critical incident process, simulations and games.
Skills:	Skill practice exercises, role-playing, in-basket exercise, participative cases, simulations and games, human relations training, nonverbal exercises, drill, coaching.
Attitudes:	Experience-sharing discussion, sensitivity training, role-playing, critical incident process, case method, simulation and games, participative cases, group therapy, counseling.
Values:	Value-clarification exercises, biographical reading, lecture, debate, symposium, colloquy, dramatization, role-playing, critical incident process, simulation and games, sensitivity training.

In general, the more the objective seeks to generate active thinking and feeling, the more should the learning experience involve the student. Participants should be reminded, however, that certain kinds of learning experiences are more familiar and comfortable to students (lectures and reading), and some learning styles do not lend themselves easily to certain learning experiences (dependent students in independent study). Learning experiences appropriate to learning objectives should not be avoided for those reasons, but teachers will need to be careful to provide orientation to new experiences along with enough disturbance in the student's current knowledge and experience to stimulate growth but not more than a student can handle at any particular time. See Leon Festinger's *A Theory of Cognitive Dissonance* (Evanston, Illinois: Row Peterson, 1957) for elaboration of this principle. Participants should examine the learning methods in the Halliburton and Bergquist parts of this handbook to expand their view of potential approaches. They also, obviously, should study the approved proposal.

Ask the same pairs or trios that wrote learning objectives to design as many kinds of learning experiences for their objectives as they can brainstorm. Encourage them to turn their imaginations loose. Then ask them to select from their list the most promising methods for their objectives and students. That set of methods should provide sufficient options that students, with varying specific objectives and styles, can find learning experiences suitable to them. Have groups report their recommended methods for general critique and revision. Ask some person or group to refine this set of methods at a later time.

STEP 6 (LEARNING STRUCTURES): The group has a start toward a set of general learning objectives and methods befitting general kinds of learner needs and styles. But how do we organize this learning? By courses? By individualized contracts? By three-month sections or two-week modules? By a portfolio of prior learning? This issue often is first in mind, for we also are conditioned to think of college-level learning as occurring in formal courses lasting about three to three and-a-half months. But structure should follow needs and styles, purpose, and function; not dictate them. Have the group review the learning structures contained in the proposal. Are they appropriate to what we now think about the objectives and learning experiences of this program? Can adjustments be made without violating the spirit and letter of the institution's decision?

Take four sheets of newsprint or four sections of blackboard and label them Orientation, Initial Learning Activities, Middle Learning Activities and Concluding Learning Activities. Ask participants to suggest the objectives and learning experiences which might be included in this general curricular sequence. What should happen first? Second? Last? Then ask how these activities should be organized. By courses? By modules? By individual contracts? By workshops and institutes? What makes more sense for the nature of our students, our objectives, and the learning experiences we desire? The group may want to sub-divide the task by time or content or objectives, then report back. Gradually, a flexible but orderly curricular structure should emerge. As before, this activity will leave rough edges which some volunteer needs to smooth following the session.

STEP 7 (LEARNING RESOURCES): You will need materials, expertise, facilities and money to carry out your learning program. The approved proposal should have addressed each kind of resource. Now these resources must be spelled out in detail. After reviewing the proposal with the whole group, establish three task forces: 1) Producing and Securing Learning Materials, 2) Selecting and Developing Teaching Expertise, and 3) Identifying and Securing Learning Locations. The first group will identify ways to find or create readings, simulations and games, program guides, and other mediated materials to be used in the various learning experiences outlined earlier. The group will plan a way to gain cooperation of libraries, audiovisual centers, bookstores, and the like. The second group will design a process for selecting and training such teaching resources as full or part-time faculty, peer teachers, field supervisors and tutors. If many non-traditional learning objectives and experiences have been chosen, selection and development of human resources will be particularly demanding. The third group will determine what learning locations are needed, such as classrooms and laboratories, field work sites, advising rooms, student residences and faculty offices. The challenge here is not only to secure adequate sites, but also to secure ones appropriate to the curricular objectives, learning experiences, and easily accessible to the program's students. Each of these task groups is not to plan out the three areas during the workshop. Rather, they should create a detailed action plan which describes how these three needs will be met in the near future. Have the groups report back for general review and approval or modification of the action plans.

STEP 8 (ORGANIZATIONAL STRUCTURE, LEADERSHIP AND FINANCING): Yet another area undoubtedly addressed in the proposal but needing planning for implementation is how the program is going to be administratively organized and funded. Again, a first step is to review actions taken to date and consider whether the reporting relationship of the program to the larger institution, the administrative structure within the program, the decision making process for the program, and the kind and amount of funding are adequate at this early point in implementation. Several issues should be addressed by the group:

1. Does the formal relationship between the program and the institutional governance and administrative systems provide appropriate external input and review along with appropriate program autonomy? Consultants detached from either part of the institution can help draw out irritations or anxieties about this relationship.

2. Does the decision making arrangement within the program provide adequate leader control and member involvement? Again, a skilled facilitator detached from the program can help program members work out effective internal relations.

3. Is the institution doing all it can to provide adequate funding, and are program members doing all they can to accomplish utmost efficiency in costs consistent with effective education? Both a good cost analyst and an expert human relations facilitator may be needed to help the group get satisfying answers to this question. One of the reasons it is important to have financial officers regularly attend planning sessions is that they can develop an understanding and appreciation for the program while providing others a good opportunity to tap their expertise and to appreciate financial needs.

STEP 9 (EVALUATION): How will we know if individual students achieve the learning objectives or if the program as a whole is worth the effort? That is a question which cannot wait until the program is underway. It needs careful planning prior to implementation.

There are three general parts of evaluation: criteria, indicators and methods. What outcomes should occur, what evidence will tell us that they have occurred, and how can we collect that evidence? If we hope students in our program will recall certain facts, be able to perform certain mental tasks, or be concerned to solve certain social problems as a result of our curriculum, we need to spell out those criteria as best we can. Next, we need to decide what kinds of evidence will demonstrate those criteria. Twelve out of fifteen correct answers to certain questions? Successful solution of a task? Actual involvement in social problem-solving? Then we need to determine how to gather this evidence. Multiple choice or essay tests? Observations in the field? Oral examinations? Observations of role-playing or simulation? Expert testimony? Self-evaluation? A related issue is when to gather evidence. If we measure outcomes right at the end of a learning experience, how will we know whether any of that learning is retained and used later? If we do not gather evidence before the learning experiences, how will we know what part our curriculum played in the outcomes? If we gather evidence well after the learning experience, how will we know whether our curriculum or some later activity helped accomplish that outcome? A thorny issue is the validity and reliability of our measures. How do we know that we are measuring what we intend to measure in a consistent manner?

Ask the original trios or pairs to go back to their lists of learning objectives. Ask them to rephrase these objectives as "criterion statements," (statements not only of the specific outcome but the level or standard of achievement of that outcome), to brainstorm the kinds of evidence which would demonstrate fulfillment to those criteria of accomplishment, and begin designing measures of that evidence. Have an expert in evaluation handy to help the trios, for systematic program evaluation is foreign business to most academics. When the subgroups have finished their task, ask them to post on the wall the criteria, indicators and measures of evaluation for "knowledge," "values" and other areas. Discuss the lists. These lists become the basis for the learning outcomes portion of program evaluation, and they should be useful guides to learners and teachers in planning their own evaluations within the program.

Other program outcomes, however, have value. Do graduates get into illustrious graduate programs or careers? Are they satisfied with their experience? Does it have impact on teaching in the rest of the institution? Ask the group as a whole to suggest such additionally attractive program outcomes, and write them on newsprint or blackboard. Then brainstorm indicators and measures.

To conclude this initial evaluation activity, ask a sub-group or individual to pull these suggestions together into a systematic program evaluation package such as the Program Effectiveness and Related Costs model cited in Chapter Eight. That package can be submitted to the group at a later time for review.

Planning in these nine topical areas is not a matter just for a two-week summer institute or a series of preliminary meetings among program staff and external leaders. It is a continuous process. These planning guidelines, therefore, should serve throughout the curriculum development and implementation.

INCENTIVES FOR THE CURRICULUM

How do we make the new curriculum attractive and rewarding for program staff, students and the institution as a whole? Several guidelines come to mind.

1. Personal Appreciation

People like to be appreciated. It costs students, staff and leaders very little to extend their gratitude to each other for the small and large contributions which make this program more effective and enjoyable. Do not assume that others are above such needs as being accepted and esteemed. Let them know.

2. Status

Being accepted into a new program as staff or student should be a prize, not a penalty. Let it be known that your criteria for selection, though they may be non-traditonal, are high and that it is a particularly capable group which makes up this program. Even basic skills programs can point out that entrants display strong motivation and personal aptitudes besides academic performance and that teachers perform teaming functions beyond the abilities of most faculty.

Call the program by a name which carries prestige, such as the "Kellogg Center." Note the success of program graduates compared to comparable students who do not have the good fortune of being accepted into the program. Note in publicity and newsletters the high status thinkers and leaders who support such an approach to education. Include student testimonials. Avoid "better-than-thou" postures, but do not shy from "we're-somebody-too" messages.

3. Ceremony

A way to formalize appreciation and status is ceremony. New program staff and students warrant a formal letter and perhaps a party to extend congratulations and welcome, to make them feel part of the team or community. Promotions deserve formal recognition, as do outstanding student or teaching or advising achievements. Surviving a year may be cause for a major celebration. And departures of valued students and staff deserve a send-off.

A tougher kind of status to achieve in new programs is represented by promotion and tenure. Generally, these rewards are given for teaching and particularly publication in traditional departments, not new programs. Early discussion about, and concrete proposals for, ways to incorporate new program development and implementation into promotion and tenure policies and practices needs to occur in the institution as a whole, in personnel committees, and among key administrators. One innovative program which "borrows" faculty from traditional departments but has managed to develop a formal reward system reflective of program objectives is New College, University of Alabama (Contact Bernard Sloan, Dean of New College, for details; see Appendix A).

4. Time

Most new programs are piled on top of the already overburdened load of staff. Do everything possible to make real time available for the new program. Staff should be assigned no greater course, advising, committee and research load including the new program than without it. They should be provided periodic sabbatical and leave opportunities plus time free from teaching to devote to preparation and scholarship. We know all these things. We just do not insist that they apply to new programs.

*5. **Money***
As is true for time and status, new curricula need to provide at least equal income opportunities to other programs. Salaries and merit increases should be comparable to those of traditional programs. If grant funds are used initially, staff should receive institutional commitment in written contract that a successful trial period (with "success" explicitly outlined in criteria, indicators and methods) will lead to the institution's financing of the program and the staff member.

*6. **Career Opportunities***
Traditional curricula have career tracks built into them. One moves up in professorial rank, in departmental prestige, in the national discipline, and in the local pecking order. Eventually, one can obtain lighter teaching loads, consulting opportunities, administrative positions and special research grants. But most new programs do not have such clear opportunities. Indeed, non-traditional assignments may become career dead-ends. Implementors of new programs need to build varied opportunities into their own program. A teacher this year can do a piece of research on the program next year. A professor can report on your program at the annual higher education conferences instead of the inevitable administrator.

An exchange program can promise new experiences. You may get connected to national networks for your type of program and seek to publish in the journals of that association or serve on its board. You may seek visibility for your program not only because of its merits, but also to give staff opportunities to consult and obtain higher positions. You may promote from within whenever possible. You may design a progression of assignments so that more experienced staff get to do new and interesting things, perhaps with less drudgery attached than new recruits must endure (but without the usual great disparity between the pain of neophytes and the pleasure of veterans.)

*7. **Enjoyment and Achievement***
A particularly potent incentive for a new curriculum is that it will be fun to do and will be more effective than other ways to aid learnings. The task of implementors is to be sure this expectation among volunteers becomes reality. Are staff and student tasks, even with the disciplined effort which must go into them, enjoyable? Are staff meetings light-hearted or dreary? Is solid evidence accruing in personal experiences as well as systematic study that this program really makes a positive difference for students and staff? Ask such questions, openly and directly. If positive answers do not occur, you may wish to invite an organization development consultant to help the program improve ways to make its efforts both enjoyable and effective.

DEVELOPING EXPERTISE

Implementation staff members have to be socialized to new educational missions, new learning needs and procedures, and new identities as members of the innovative program. They will need to acquire new knowledge and skills appropriate to their new roles. No two-day orientation is going to do the trick. Rather,a systematic and longitudinal program of staff development is needed. The following components of such a program are desirable:

1. *Intensive orientation* to the needs, purposes and nature of the new program is needed so that staff understand and appreciate what it is they are supposed to do. Involvement in the planning activities described on previous pages can be a good part of that socialization, but staff members also will need time among themselves, without influential outsiders, so they will feel comfortable in exposing their problems and will have time to get into greater depth on implementation issues.
2. *Academic study* of the educational philosophy and learning theory which

underlie this kind of curriculum is desirable. Also, include similar study of the academic content to be used in the curriculum, especially if the curriculum requires teaching outside one's specialty.

3. *Direct contact* with similar programs elsewhere is needed so that implementors can learn from the successes and failures of other implementors.
4. *Team-building* is important so that the staff works as a mutually-supportive unit rather than as a disparate set of individuals.
5. *Skill development* to carry out various teaching, leadership and planning functions is essential.
6. *Action-research* training will enable the staff to gather data regarding their progress, analyze it, and improve on the basis of its messages.
7. *Professional growth plans* should be worked out among staff and with their supervisors so that staff members systematically pursue continuous development with support and rewards from the institution.

Each of these inservice training components can be planned and led with the aid of local or external consultants in professional and organizational development. Such expertise will be necessary, for most of these components are unfamiliar territory among many curriculum implementors.

A useful way to plan staff development is to take Knowles' categories—knowledge, understanding, skills, attitudes, values—and write out the competencies staff members need in each category in order to carry out this program. (See Step 5: Learning Experiences.) That also can be a useful way to develop staff selection criteria.

A normal schedule of staff orientation and training could include an intensive orientation and planning institute as long as three weeks (summer is ideal for such activities), followed by three-hour weekly seminars and occasional weekend retreats. If the program involves much new skill and knowledge, it is wise to lighten the teaching load for the first few months. Later, savings in efficiency and effectiveness more than compensate for the initial investment in staff development. Administrative leaders should join in some of these activities and should go through the same activities as other staff while they are present ("observers not allowed") so that they share the risks and avoid "we-they" rifts. Also, include leadership development activities for staff members as well as administrators, for no program can really be effective without several skilled leaders.

Useful models of such staff development for new curricular programs are described by Chester Case and Thomas Clark in *Designing Teaching Improvement Programs*.[5] A useful introduction to faculty development is Jerry Gaff's *Toward Faculty Renewal* (San Francisco: Jossey-Bass, 1975). Many practical tips, instruments, and exercises for faculty development can be found in the two volumes of the *Handbook on Faculty Development*, written by William Bergquist and Steven Phillips.[6] (For a handy model of professional growth plans, contact Judson Carlberg, Dean, Gordon College Wenham, Massachusetts, 01984.)

CREATING A CLIMATE

Few new program leaders systematically go about creating a "climate" which makes working in this program effective and enjoyable. Organizational research consistently indicates that a program characterized by openness, trust and collaboration is more effective than one noteworthy for the closed, mistrusting, competitive nature of relationships. For innovative programs within larger institutions, two kinds of working relationships are particularly important: those within the program (including relations with students) and those between it and its parent institution. Unless both kinds of relationship are warm and candid, the program is in for rough times.

A good way to create a positive climate between the new curriculum and the broader system is *bridge-building*. New programs become isolated islands before they know it. They lose touch with departments whose resources and cooperation they need. They operate as if similar new programs are on other planets. They do not have close rapport with executive administrators and faculty leaders. In part, this isolation occurs because internal implementation demands overwhelm the staff. In part, innovators seek autonomy so they can be free of traditional constraints. A delicate balance needs to be struck between freedom from the larger system and linkage to it. Here are several ways to remain an innovative island, but one with many bridges to the mainland.

1. Advisory Council

As is true in assessing needs and formulating proposals, an excellent bridge is an advisory council composed of persons outside the program who bring expertise and interest to your program while providing credibility and influence in the external system. A council for a new curriculum might include several chairpersons and professors in key departments, the faculty senate president, a leading public figure in a field related to the program's thrust, and a number of students who represent important educational needs and interests within the program. Such a council should share in orientation activities, observe the program first-hand, be sought for advice on key issues, and be asked to help gain external support. It should view itself as a bridge from outside into the program and from the program into the outside system, not as outsiders or insiders.

2. Personal Diplomacy

The program leader(s), in particular, will need to devote considerable time to a personal form of bridge-building which could be called "making the rounds" or "keeping in touch." A first step is to analyze who the key opinion leaders are regarding the materials and political support needed to carry out the new program. Ways to identify persons of influence have been noted in Chapter Nine.[7]

In brief, ask various persons "To whom do you turn for good advice on the worth of programs such as ours," observe who sits in high administrative and governance positions, examine institutional records to see who was involved in prior decisions on new curriculum (such as your own), watch current decision-making about such programs, and make a list of academic and administrative departments whose help you need to staff and finance your program. The persons you need to know should appear by that process. Make it an early and regular practice to stop by their offices, have lunch with them, and invite them to the program or suitable occasions. But make those personal contacts serious solicitations of their advice and aid. If you come to lobby, admit it with a grin, for you surely will be suspected of it. Such personal contact becomes dirty politics when you attempt to manipulate the other person covertly. Instead, practice open honesty.

3. Invited Involvement

Skeptics often need to see it with their own eyes or try it themselves in order to accept an innovation. One form of bridge-building is to invite key external skeptics to experience the new program first-hand. They may be asked to sit in on admissions interviews to make sure the program has high standards and thoughtful educational procedures at the beginning. They may be asked to observe a class, watch an advising session, look over course outlines and syllabi, sit in on a staff meeting, or actually take part as a guest professor or a part-time advisor. Whatever the involvement, their reactions and advice on ways to improve should be solicited both to strengthen the program and to strengthen their sense of contribution.

4. Evaluation Committee

Another bridge, risky but important, concerns evaluation. Such a bridge should be built from the mainland; the group should be constituted by faculty governance and institutional administration, so that it is trusted as an objective analysis by the broader system's respected leaders. That does not mean the innovative program should not have a say in evaluation. Program leaders may ask to add a person of their choice. They should indicate to the evaluation committee the kinds of evaluative questions and procedures which they would like. They should openly share information with the committee. If that group does not decide to gather information the program needs to improve or to make its case, program leaders should be free to do their own data gathering activities.

One important program request might be formative evaluation. The external evaluation committee could be asked to gather information early in the program and feed it back so that staff can adjust their approach and improve their program. Feedback procedures discussed in Chapter Eight and later in this chapter could be employed, perhaps with the aid of an action-research specialist. This activity makes the evaluation committee more consultant than judge. It also gives the program a chance to improve before the final verdict.

5. Dissemination

A fifth bridge is dissemination of things achieved and learned in the program with regard to fulfillment of certain learning objectives with various kinds of students. Such dissemination can increase outside support while it stimulates wider application of program elements. One strong dissemination device is word-of-mouth sharing by program participants and advisors with opinion leaders regarding their impressions of what seems to be working in the program; that is, dissemination by personal diplomacy. Another approach is to make periodic progress reports to key governance bodies and administrative offices, preferably in person, accompanied by written documents. These reports should contain some systematic data, say numbers of students achieving specified levels of performance and satisfaction at particular costs. A third approach is to hold "open houses," "visitors days" or "road shows" in which program staff and students give first-hand views of how the program works, along with personal testimony about its value. A fourth dissemination device is the "experience brochure" or "handout" which describes how, and how well, the program works, couched in ways which let the reader see how she might adapt such a program to her situation. The key here is not to tell *your* story but to extract from it learning which might be applied elsewhere.

A fifth way to share program learnings is to conduct a dissemination workshop with follow-up consultation. Invite interested parties from the broader institution and elsewhere to spend several days with your staff and students, along with a consultant or two who is expert in helping institutions adapt your kind of program. Encourage attendance in faculty-administrative-student teams including major leaders so there will be a sizable and influential force for adaptation back on campus. Send printed handbook materials ahead of time. In planning how to use the learnings, alternate learning and training presentations from your program (using role-playing and simulation) with team meetings (using consultation). Do not sell your program. Help participants adapt it to their needs. End with specific action plans which indicate what each team or individual is going to do next to use the learnings of your program. Then follow-up by phone calls, site visits, letter, and/or future workshops to strengthen the bridge between your program and participant situations.

Strengthening and maintaining a positive working atmosphere within the new program is equally difficult. It is normally attempted through the establishment of a thick manual of policies and procedures, a device borrowed from bureaucratic and political systems. Those formal rules may be necessary, but they often bring problems. Here are a few alternatives, or antidotes:

Working Positively

THE ACTION-RESEARCH TEAM The whole staff of a small program, plus several students, or a voluntary sub-group of a larger program, can take initiative to study and facilitate effective leadership and involvement. Its job is not to make decisions or to give advice but to help the program coordinator and participants work well together. It generates information regarding current internal issues and shares that data with everyone. It studies the decision process itself to learn how well it is working for various program members, then arranges feedback sessions to confront and resolve problems in that process. The value of such a team is that it does not lock the staff into any particular decision-making structure but instead monitors and helps adjust the structure to increase effectiveness and efficiency. Chapters Eight and Nine describe how such a team would operate to accomplish collaborative decision-making.

LEADERSHIP CONTRACT A program leader can enter into a negotiable contract or plan with program members and institutional superiors. The contract would state what the leader hopes to accomplish in the next year or so, how she intends to go about accomplishing those objectives, what resources she will need from members and the institution, plus the criteria and methods of contract evaluation. The advantage of this approach is that it permits the leader to initiate a plan of action, gives members and superiors a say in the plan as well as a responsibility to assist it, provides the leader some latitude in carrying out her functions, and has a participative evaluation after a short period.

TRIAL BALLOONS Instead of cumbersome governance procedures for every idea, permit any two or three program members to send up a trial balloon. "We propose . . ." Any balloon should be supported by evidence of need and sufficient specificity in objectives and plan that its implications can be estimated. If neither the coordinator nor a quarter of the program members request formal review of the proposal within two weeks of its announcement, it becomes accepted policy. The advantage of such a procedure is that it avoids tedious delays and the ability of a few resistors to thwart change by control over agenda or by windy debate; yet it does not permit changes without review if a sizable minority or the program leader object.

AD HOCRACY It seems that governance structures are born but never die. Once in place, a committee or administrative office has no trouble making work for itself. Much of that work, however, occurs more because the structure is there than because the need is there. Instead of establishing a new government for the new curriculum, create *ad hoc* teams on issues as they arise. The team should see that issue through and then disband. A good way to identify issues and form teams is through the process of needs assessment described in Chapter Eight. That way, staff can participate in deciding what issues need tackling and who should do the work.

TRAINING FOR DECISION-MAKING A principal reason that decision-making goes awry is that we never have been trained to do it. Integral to staff development for new programs, therefore, should be training in how to make decisions in ways which combine leadership with involvement. Processes such as Robert Blake's and Jane Mouton's *Grid Organization Development* (Reading, Mass.: Addison-Wesley, 1969); Edgar Schlein's *Process Consultation* (Reading, Mass: Addison-Wesley, 1969); and Rensis Likert's "linking pin" and "Systems 4" approaches to leadership[8] can be applied usefully to higher education management. A useful resource is the *Management Development and Training Program for Colleges and Universities* (Higher Education Management Institute, 2699 South Bayshore Drive, Coconut Grove, Florida 33133.

FORMATIVE AND SUMMATIVE EVALUATION

Michael Scriven has coined two phrases with important meaning for the successful achievement and review of program goals. "Formative" evaluation helps form the program. It is analysis of how the program is progressing and what are the obstacles to eventual success. It is a guide to improvement conducted for and with program implementors. "Summative" evaluation, in turn, is analysis from some end point of whether or not the program has achieved worthy objectives. It is a guide to judgment among those who must decide whether to continue or alter the program. It is the more familiar kind of evaluation among academics.

Previous chapters have provided practical examples of both kinds of evaluation. Chapter Eight discussed ways to clarify the educational values which new programs should represent; the student backgrounds, objectives, abilities, and learning styles to which new programs should be responsive; the problems in learning experiences and outcomes and costs which new programs should solve; the curriculum theory and external demands to which new programs should be sensitive; and the educational and organizational objectives new programs should attain. Many kinds of evaluation instruments and procedures were cited. The planning section of this chapter described ways to make these general concerns specific and explicit for a particular new program. It also described the Evaluation Committee and the Action-Research Team as mechanisms for conducting both formative and summative evaluation. Perhaps not explicit, but certainly important, is the general strategy presented in these chapters—that of approaching program diagnosis, formulation, and implementation as an educational process involving key opinion leaders and authorities—in itself is a powerful evaluation approach. In essence, eventual judges learn with program advocates by being integrally involved in the program from its inception as an idea or problem.

Formative and summative evaluation techniques, therefore, are imbedded throughout Part Four of this handbook. But because program evaluation is rarely done well regarding college curriculum, a few additional points should be made or re-emphasized.

1. Clarify the Criteria, Indicators, and Measures of Effectiveness

Too often evaluations are conducted without much clarity about what the program should accomplish, about the evidence that would demonstrate accomplishment, and about the best ways to gather and validate that evidence. Pay particular heed, therefore, to the procedures in this section which suggest ways to gain such clarity among both implementors and external judges.

2. Use Pre-During-Post Evaluation Designs

Most evaluations are post-hoc attempts to reconstruct what happened, why, and how. That strategy has all kinds of problems. People forget or memory distorts the past. Necessary records are not kept. No one knows what students or the organization were like before the program, so its effects are mere guesses. Evaluators after the fact may decide the program was supposed to accomplish things never intended by those who initiated it. Because criteria and indicators are not determined by evaluators before implementation, program staffs have little guidance in determining what they should strive to achieve. Whenever possible, therefore, set evaluation criteria and indicators before implementation and gather base-line data against which to compare later findings. And so that you have evidence by which to explain why pre-post achievements did or did not happen, study what occurs during implementation. The visual equivalent to pre-during-post studies is a before and after portrait separated by a moving picture of time between. In research parlance, surveys and interviews and tests pre and post would be connected by detailed case histories of the program in action. An excellent model of such evaluation studies was cited earlier, the Program Effectiveness and Related Costs program.

3. Combine Methods

Survey researchers, psychometricians, participant observers, and anthropological investigators enjoy debating the virtues of their special research methods; but for most program evaluation purposes, the wisest course probably is to combine approaches. Surveys can garner opinions among many people. Interviews can add depth and openness. Tests can suggest whether survey and interview opinions are substantiated by performance. Document analysis and observation are alternative ways to gather evidence independent of the perspectives of "respondents." Actual experience in the program as teachers, students, administrators, or advisors is another method for gathering evidence regarding its effectiveness, often a particularly strong method because all one's senses are put to work over a fair amount of time. For most program evaluators, none of these methods can stand alone. They supplement, check, and enlighten one another. Therefore, develop a mix of evaluation methods.

4. Strive Toward Objectivity

There is no evaluation strategy which eliminates bias. But we can strive to minimize it. One way is to seek evaluators who have no apparent vested interest in drawing one conclusion or another. At least one member of an evaluation team probably ought to be a member of some other institution and a person without strong views regarding what a curriculum such as yours should accomplish. Other evaluators can be helped by training and process consultation to recognize their biases and try to keep them in check. A serious attempt to prove the opposite of one's hunches can be healthy. If I think the program should accomplish certain objectives, I would set out to prove that the program really makes no difference, the "null hypothesis." On the other hand, if I believe the program won't make any desirable difference, I should try mightily to prove that it does.

5. Stress Evaluation Use

Too many evaluation studies conclude with a written report mailed or handed to appropriate audiences, period. This "legal brief" or "scholarly paper" approach to the dissemination and use of findings is no more effective in evaluation than it is in program needs assessment or formulation. Regard reporting as an educational and human process which incorporates the "feedback" and "action-planning" strategies of Chapters Eight and Nine, whether the evaluation purpose is formative improvement or summative judgment.

6. Set Reasonable Expectations

Early in a new program's life, success may mean that staff and students are doing things related to program plans and objectives, are coming to grips with the inevitable problems of initial implementation, have fairly high commitment to program goals as well as understanding of ways to accomplish them, and are reasonably satisfied. It may take years to develop the sophistication needed to accomplish the full range of learning objectives. Also, no expectations or demands for evidence regarding new programs should be beyond those required of other programs unless the new program claims to accomplish much more than other curriculum. Finally, be prepared that new programs will exact high initial costs both on people and finances, for it takes time to develop effective procedures and work out the stresses inherent in change. Eventually a new program should cost no more than alternative ways to achieve the same objectives, but evaluators should spread initial costs over the life of the program, as is done with capital investments, in order to get a fair cost assessment.

7. Consider the Program's Content

It is easy to blame a new program for lack of accomplishments which are due to circumstances beyond the program's control. A program may not make headway because institutional and broader rewards do not support it. Faculty members may not join the program, or may commit only minimal time to it, because the route to fame and fortune is through traditional departmental performance, not through teaching in the innovative curriculum. A program may not succeed because institutional leaders, faculty and administrative, do not encourage and support it. It may not succeed because events in the larger institution draw resources away from it. Evaluators, therefore, should examine the degree to which the institution's interests, incentives, leadership, and other factors provide a positive, neutral, or negative context in which to achieve program objectives.

8. *Take Stock Early*

Perhaps the key to an eventually positive evaluation is an early reading and then a regular stock-taking, which is used to correct problems before things are beyond repair. The following is a flexible procedure which may be used whenever it seems appropriate to stop and reflect.

Taking Stock

Objectives: To clarify implementation strengths and problems and to make plans to correct the problems.

STEP 1: Prior to implementation, pick a person or group inside or outside the program whose job is to observe initial implementation activities, interview participants and conduct feedback sessions. This action researcher will seek information on how implementation is going and what seem to be the obstacles to effectiveness. Various action-research approaches may be used. See Wendall French and Cecil Bell's *Organization Development: Behavioral Science Intervention for Organization Improvement* (Englewood Cliffs, N.J.: Prentice-Hall, 1973) for guidance. Instruments and procedures outlined in Chapter Eight can be employed.

STEP 2: Have the action-researcher organize observation and interview data into general categories or themes and present that information in the last half-hour of a staff meeting or class period, or the first half-hour of a staff-student-advisory council workshop.

STEP 3: Have small groups discuss the data and list three top improvement priorities (for the class, staff or program). Build a common priority agenda of improvement needs from small-group reports.

STEP 4: Assign task groups to design action plans to accomplish each priority improvement. Have task group plans reported and reviewed.

STEP 5: Assign individuals or groups to carry out the action plans. If the task groups turn out to be the improvement groups, ask the latter to keep the former informed so that actions are consistent with initial intentions. Administrators will need to be sure that this follow-through is adequately supported by time, money and influence.

STEP 6: Have the action-researcher continue to gather data on how things are going, repeating Steps 1-5 as many times as necessary to correct problems before they mushroom.

Persons who have been involved in similar data-gathering and feedback activities earlier in the curriculum development project should find this exercise familiar and fairly easy to conduct. Remember, however, that "disturbing data" which suggests you are not behaving as you might like are hard to confront openly and positively. Trained consultants may be needed to help the staff and students, at least in the first round or two of taking stock. Possible outcomes of formative evaluation may be needed to help the staff and students, at least in the first round or two of taking stock. Possible outcomes of formative evaluation may be redesigns of learning experiences, training in teaching or leadership skills, new decision-making procedures, a grant proposal, a conflict-management workshop, a program to help students learn how to learn in the new curriculum, and a new plan to build links to external people and programs which can be of help.

SUMMARY

The entire curriculum development process suggested in Chapters Eight, Nine and Ten is intended to generate a firm base of support among internal staff and external sources for money, time, expertise and influence. With this goal in mind, it is appropriate that we summarize the major factors related to this process. First, involve key institutional leaders, faculty as well as administration, supporters as well as detractors, in diagnosing the need for new curricular developments and the objectives of such activities. Second, involve those leaders in considering various alternative solutions to the problems they helped identify, and give them a chance to review drafts of the particular curriculum being developed. Design these activities and decision events so that consideration can be based on valid information and in relaxed interactions (in small groups or one-to-one). When planning for implementation, bring those involved in development and review together with implementors so they can contribute to planning. Build several bridges to external sources of support and pay attention to the internal climate as well. Make evaluation a shared activity and a serious commitment.

If you, the curriculum developer, have a weak idea related to a nonexistent need and cannot demonstrate its effectiveness, all these steps will not redeem you. If you behave in a closed, suspicious and competitive manner, you are likely to receive the same reaction. But if yours is a needed and promising program, and you implement development in an informed, open, respectful and collaborative manner, the chances are that a new, exciting curriculum will stimulate faculty members and benefit students.

NOTES

[1] Neal Gross, Joseph Giacquinta and Marilyn Bernstein, *Implementing Organizational Innovations* (New York: Harper and Row, 1971).

[2] Paul Berman and Milbrey McLaughlin, *Federal Programs Supporting Educational Change: The Findings in Review* (Washington, D.C.: Department of Health, Education and Welfare) April, 1975, R-1589-5.

[3] *A Foundation Goes to School*, The Ford Foundation Comprehensive School Improvement Program, 1960-1970 (New York: The Ford Foundation, 1972).

[4] William H. Bergquist and Steven R. Phillips, ed. Gary H. Quehl, *A Handbook for Faculty Development, Volume One* (Washington, D.C.: Council for the Advancement of Small Colleges, 1975).

[5] Chester Case and Thomas Clark, *Designing Teaching Improvement Programs*, ed. Jack Lindquist. Contact Jack Lindquist or the W. K. Kellogg Foundation, Battle Creek, Michigan 49016).

[6] William H. Bergquist and Steven R. Phillips, ed. Gary H. Quehl, See also *A Handbook for Faculty Development, Volume Two* (Washington, D.C.: Council for the Advancement of Small Colleges, 1977).

[7] See John D. Lindquist and Robert Blackburn, "Middlegrove: The Locus of Campus Power" *AAUP Bulletin*, Winter, 1974, pp. 367-378.

[8] Rensis Likert, *The Human Organization: Its Management and Value* (New York: McGraw-Hill, 1967).

APPENDIX A

eight curricular models*

*The materials in this appendix were prepared by the colleges for their internal use. They were selected as exemplary examples of each curricula and can be of use to other institutions that are considering such revisions. Because these colleges are constantly in a state of change, the information may not be up-to-date. It is suggested that you contact the college for current versions.

heritage-based

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INTRODUCTION

Liberal education should seek to develop free and rational men and women committed to the pursuit of knowledge in its fundamental unity, intelligently appreciative of their common cultural heritage, and conscious of their social and moral obligations. Such men and women are best equipped to master the specific skills of any calling and to become mature, competent, and responsible citizens of a free society.

St. John's College believes that the way to liberal education lies through the books in which the greatest minds of our civilization—the great teachers—have expressed themselves. These books are both timeless and timely; they not only illuminate the persisting questions of human existence, but also have great relevance to the contemporary problems with which we have to deal. They can therefore enter directly into our everyday lives. Their authors can speak to us almost as freshly as when they spoke for the first time, for what they have to tell us is not something of merely academic concern, remote from our real interests. They change our minds, move our hearts, and touch our spirits.

The books speak to us in more than one way. In raising the persisting human questions, they lend themselves to different interpretations that reveal a variety of independent and yet complementary meanings. And, while seeking the truth, they please us as works of art with a clarity and a beauty that reflect their intrinsic intelligibility. They are therefore properly called great, whether they are epic poems or political treatises, and whether their subject matter is scientific, historical, or philosophical. They are also linked together, for each of them is introduced, supported, or criticized by the others. In a real sense they converse with each other, and they draw each reader to take part, within the limits of his ability, in their large and unending conversation.

This conversation, however, is unavoidably one-sided. The great books can only repeat what they have to say, without furnishing the clarifications that we sometimes desire. To remedy this defect is the goal of the St. John's seminar. Here, a number of students of varied backgrounds, faced with a text that may present unfamiliar ideas, attempt to discuss it reasonably. It is presupposed that each student is willing to submit his opinions to the critical scrutiny of his fellow students. The demands of the individual and those of the group are in continuous interplay, setting limits within which the discussion moves with the utmost

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SOURCE: ST. JOHN'S COLLEGE, ANNAPOLIS, MARYLAND
(Excerpted from the 1975-1976 St. John's College Bulletin, with the permission of the institution.)

possible freedom. The discussion may concern itself primarily with trying to establish the meaning of a poem or the validity of an argument. On the other hand, it may concern itself with more general or with very contemporary questions that thrust themselves forward. The students bring to the seminar the assumptions—probably unexamined—that they have derived from their experience in the contemporary world. Through discussion they acquire a new perspective, which enables them to recognize both the sameness of a recurrent problem and the variety of its historical manifestations.

In the main, however, the aim is to ascertain not how things were, but how things are—to help the student make rational decisions as he lives his life. And it is the ultimate aim of the program that the habits of thought and discussion thus begun by the student should continue with him throughout his life.

Most of the teaching at St. John's takes the form of a discussion. The conversational methods of the seminar are carried over into the tutorials. As much as possible, the actual instruction in all classes and laboratories is made to depend on the activity and initiative of the students. The tutor functions as a guide, more intent to listen to the students and to work with them than to impose upon them his own train of thought.

In short, St. John's seeks to restore the true meaning of a liberal arts education. The primary function of the liberal arts has always been to mediate men's understanding, to give conscious form to knowledge through systems of signs accommodated to men's intellects—that is, words and numbers. Traditionally, the liberal arts were seven in number: grammar, rhetoric, logic—the arts of language; and arithmetic, geometry, music, and astronomy—The arts of mathematics. In contemporary terms, man practices such liberal arts as analyzing, thinking, writing, speaking, and deciding as he uses verbal symbols; man practices such liberal arts as counting, measuring, deducing, and demonstrating as he uses mathematical symbols.

There are many ways to develop these arts. The curriculum emphasizes four of them: discussion, translation, demonstration, and experimentation. They are followed in all the branches of the program. But whatever the methods used, they all serve the same end: to make the student *think for himself*, to enable him to practice the arts of freedom. Free minds must be able to view concrete situations, to deliberate by formulating clear alternatives, and to arrive at a deciding choice. The acquisition of these intellectual skills indicates that the discipline of the liberal arts has taken hold of the learning mind.

Knowledge advances and the fundamental outlook of man may change over the centuries, but these arts of understanding remain in one form or another indispensable. They enable men to win knowledge of the world around them and knowledge of themselves in this world and to use that knowledge with wisdom. Under their guidance men can free themselves from the wantonness of prejudice and the narrowness of beaten paths. Under their discipline men can acquire the habit of listening to reason. A genuinely conceived liberal arts curriculum cannot avoid aiming at these most far-reaching of all human goals.

THE SEMINAR

The heart of the curriculum is the seminar—a discussion of assigned readings from the books of the program. In each seminar there are seventeen to twenty-one students with two members of the faculty as leaders. The group meets twice a week, on Monday and Thursday evenings, from eight until ten—or well beyond if the topic under discussion has aroused a sustained and lively argument. The assignment for each seminar amounts, on the average, to around a hundred pages of reading, but may be much shorter if the text happens to be particularly difficult.

The seminar begins with a question asked by one of the leaders, and thereafter it consists almost entirely of student discussion. Students talk with one another, not just to the leaders. They do not raise their hands for permission to be heard, but enter the discussion or withdraw from it at will.

Once under way, the seminar may take many forms. It may range from the most particular to the most general. The reading of Thucydides, for example, is almost certain to provoke a discussion of war and aggression and to bring to the surface the students' opinions and fears about the wisdom or error of national policies. Homer and Dante prompt reflections on the virtues and vices of men, on man's ultimate fate. Sometimes a seminar will devote all its time to an interpretation of the assigned reading, staying close to the text; at other times the talk may range widely—and even wildly—over topics suggested by the reading but having independent relevance in the minds of the participants. In the coffee shop after seminar, students, from different groups compare the points made in their discussions.

THE PRECEPTORIAL

For about eight weeks in the middle of the year the seminars of the junior and senior classes are replaced by preceptorials. These are small groups of students engaged in the study of one book, or exploration of one subject in several books. Students are usually given a choice of sixteen to twenty books or subjects of particular interest to the tutors who offer them. Students may suggest a topic and invite a tutor to study it with them.

Although many preceptorials study one of the books of the seminar list, or a theme suggested by the seminar reading, some preceptorials may deal with books and themes the students would not otherwise encounter in the program. There are generally seven or eight students in a preceptorial. Guided by a tutor, they proceed at a pace more leisurely than that permitted by the seminar. Usually the student's work is completed by the writing of a paper, which may be read in draft to the preceptorial and criticized by the other members.

THE TUTORIALS

The seminar cannot suffice as the only means to the end of liberal education. By its very nature the seminar does not give the student an opportunity to cultivate the habits of methodical and careful study. Other instructional devices must therefore support it: these are the tutorials in language, mathematics, and music. For four years a student attends one language tutorial and one mathematics tutorial, usually four mornings a week. Three times a week sophomores also attend a music tutorial.

In tutorials, around a table, thirteen to fifteen students study and learn together under the direct guidance and instruction of a tutor. Each tutorial session lasts an hour. The tutorial provides conditions for collaborative study and for the manifold teaching and learning relations that hold in a company of good friends. As in the seminar, students talk freely with one another and the tutor, but the discussion focuses sharply on assigned tasks. There is opportunity for each student to contribute his measure of instruction to his fellows. Other tutors often attend, seeking to learn about a particular subject, which they may later teach.

A student will work in the language and mathematics tutorials with one group of fellow students, and in the laboratory and the seminar with another. Some of the students in his tutorials will also be with him in his laboratory and seminar.

THE LABORATORY

The scientific laboratory may well be the most characteristic institution of the modern world. The intellectual revolution that is modern science has redefined and transformed our whole natural and cultural world. Liberal education today cannot ignore this tremendous change. The task, however, is not to cover exhaustively the various scientific disciplines, to bring the student up to date in them, or to engage in specialized research. It is rather to make the student experience and understand the significance of science as a human enterprise involving fundamental assumptions and a variety of skills derived from the practice of the liberal arts. The ways of inquiry into nature proper to Physics and Biology have to be scrutinized and marvelled at.

A student studies laboratory science in his freshman, junior, and senior years. A laboratory section consists of seventeen to twenty-one working under the guidance of a tutor, with the help of more advanced students serving as assistants. Sections meet twice a week. A laboratory session may be used for exposition and discussion of theory, for experimentation, or for both, as the progress of the work requires. Frequently a laboratory meeting is reserved for the discussion of a classic paper or text relating to the topic at hand; writings of Aristotle, Galen, Harvey, Huygens, Newton, Lavoisier, Darwin, Faraday, Maxwell, Thomas, Rutherford, Bohr, and Heisenberg are among those regularly used in this way. The purpose is to achieve an intimate mixture of critical discussion and empirical inquiry; the experimental work must be combined with a full and free discussion of the instruments and principles involved in it.

THE FORMAL LECTURE

The curriculum as described so far has been shown to use the medium of discussion, of recitation, of student participation at every stage of the work. On Friday evenings, however, a different pattern of instruction prevails. The formal lecture is the occasion when the student has an opportunity to listen steadily and attentively. The subject may be closely connected with seminar readings or it may open up a new field of interest and test the student's readiness to absorb new information and to follow arguments in unfamiliar fields: in anthropology or space science, painting or architecture. The lecturers are often visiting scholars, but not infrequently members of the St. John's faculty. The visitor may be from the academic world or from the arena of public affairs; he may be a poet or an artist. Sometimes a concert replaces a lecture.

The lecture is followed by a discussion. Here the lecturer submits himself to prolonged questioning by the students, with the faculty participating. Often the discussion turns into a seminar. Thus the formal lecture serves two purposes: it inculcates in the student the habit of listening and following the exposition of a subject he may not be familiar with, and it also provides him an opportunity, in the discussion period, to exercise his dialectical skill in a setting very different from the classroom. It is here that he can himself test the degree of his understanding and the applicability of what he has learned.

The lectures range through a variety of subjects. Sometimes the student is confronted with opposing views on a given subject. Some of the lectures have immediate repercussion in the seminars and tutorials. Others may have a lasting effect on the direction that a student's work takes within the framework of the program.

ST. JOHN'S LIST OF GREAT BOOKS

The books that serve as the core of the curriculum were chosen over a period of nearly forty years, first at Columbia College, at the University of Chicago, at the University of Virginia, and, since 1937, at St. John's College. The distribution of the books over the four years is significant. Something over two thousand years of intellectual history form the background of the first two years; about three hundred years of history form the background for almost twice as many authors in the last two years.

The first year is devoted to Greek authors and their pioneering understanding of the liberal arts; the second year contains books from the Roman and medieval periods; the third year has books of the seventeenth and eighteenth centuries, most of which were written originally in modern languages; the fourth year brings the reading into the nineteenth and twentieth centuries.

The chronological order in which the books are read is primarily a matter of convenience and intelligibility; it does not imply an historical approach to the subject matter. The St. John's curriculum seeks to convey to the student an understanding of fundamental problems that man has to face today and at all times. In doing that it may help the student to discover a new kind of historical perspective and perceive through all the historical shifts and changes the permanence and ever-present gravity of human issues.

The list which follows is subject to constant review and revision by the Instruction Committee of the faculty.

FRESHMAN YEAR

HOMER *Iliad, Odyssey*
AESCHYLUS *Agamemnon, Choephoroe, Eumenides, Prometheus Bound*
SOPHOCLES *Oedipus Rex, Oedupus at Colonus, Antigone*
THUCYDIDES *Peloponnesian War*

EURIPIDES *Hippolytus, Medea, Bacchae*
HERODOTUS *History*
ARISTOPHANES *Clouds, Birds*
PLATO *Ion, Meno, Gorgias, Republic, Apology, Crito, Phaedo, Symposium, Parmenides, Theaetetus, Sophist, Timaeus, Phaedrus*
ARISTOTLE *Poetics, Physics, Metaphysics, Ethics, On Generation and Corruption*
EUCLID *Elements*
LUCRETIUS *On the Nature of Things*
PLUTARCH *Pericles, Alcibiades*
MARCUS AURELIUS
NICOMACHUS *Meditations*
Arithmetic
LAVOISIER *Elements of Chemistry*
ESSAYS BY *Archimedes, Toricelli, Pascal, Fahrenheit, Black, Avogadro, Dalton, Wollaston, Gay-Lussac, Cannizzaro, Mach, Bridgman, Couper, Morveau, Proust, Berthollet, Richter, T. Thomson, Whewell, Berzelius, Dulong, Mendeleev*

SOPHOMORE YEAR

THE BIBLE
ARISTOTLE *De Anima, On Interpretation, Posterior Analytics, Categories, Parts of Animals, Generation of Animals*
APOLLONIUS *Conics*
VIRGIL *Aeneid*
PLUTARCH Caesar, Antony, Brutus, Cato the Younger, Pompey, Cicero
EPICTETUS *Discourses, Manual*
TACITUS *Annals*
PTOLEMY *Almagest*
GALEN *On the Natural Faculties*
PLOTINUS *Fifth Ennead*
DIOPHANTUS *Arithmetic*
AUGUSTINE *Confessions, City of God*
ST. ANSELM *Proslogium*
MAIMONIDES *Eight Chapters on Ethics*
AQUINAS *Summa Theologica, Summa Contra Gentiles*
DANTE *Divine Comedy*
CHAUCER *Canterbury Tales*
MACHIAVELLI *The Prince, Discourses*
COPERNICUS *On the Revolution of the Spheres*
LUTHER *The Freedom of a Christian, Secular Authority*
RABELAIS *Gargantua and Pantagruel*
CALVIN *Institutes*
PALESTRINA *Missa Papae Marcelli*
MONTAIGNE *Essays*
VIÈTE *Introduction to the Analytical Art*
BACON *Novum Organum*
SHAKESPEARE *Richard II, Henry IV, Henry V, The Tempest, As You Like It, Hamlet, Othello, Macbeth, King Lear, Coriolanus, Sonnets*
KEPLER *Epitome of Copernican Astronomy*
DONNE *Poems*
HARVEY *Motion of the Heart and Blood*
DESCARTES *Geometry*
PASCAL *Generation of Conic Section*
BACH *St. Matthew Passion, Inventions*
HAYDN *Quartets*
LAMARCK *Philosophical Zoology*
MOZART *Operas*
BEETHOVEN *Sonatas*
SCHUBERT *Songs*
DARWIN *Origin of Species*
VERDI *Otello*

MENDEL *Experiments in Plant Hybridization*
STRAVINSKY *Symphony of Psalms*
DES PREZ *Mass*
POEMS BY *Marvell, Donne, and other 17th-century poets*
ESSAYS BY *Bernard, Weismann, D'Arcy Thompson, Lamarck, Dreisch, Boveri, von Baer*

JUNIOR YEAR

CERVANTES *Don Quixote*
GALILEO *Two New Sciences*
HOBBES *Leviathan*
DESCARTES *Discourse on Method, Meditations, Rules for the Direction of the Mind*
MILTON *Paradise Lost, Samson Agonistes*
LA ROCHEFOUCAULD *Maximes*
LA FONTAINE *Fables*
PASCAL *Pensées*
HUYGENS *Treatise on Light, On the Movement of Bodies by Impact*
SPINOZA *Theologico-Political Treatise*
LOCKE *Second Treatise of Government*
RACINE *Phêdre*
NEWTON *Principia*
LIEBNIZ *Monadology, Discourse on Metaphysics, Principles of Nature and Grace Founded on Reason, Essay on Dynamics*
SWIFT *Gulliver's Travels*
BERKELEY *Principles of Human Knowledge*
FIELDING *Tom Jones*
HUME *Treatise of Human Nature, Dialogues Concerning Natural Religion, Enquiry Concerning Human Understanding*
ROUSSEAU *Social Contract*
ADAM SMITH *Wealth of Nations*
KANT *Critique of Pure Reason, Fundamental Principles of Metaphysics of Morals*
MOZART *Don Giovanni*
JANE AUSTEN *Pride and Prejudice*
HAMILTON, JAY, AND MADISON *The Federalist*
MELVILLE *Billy Budd, Benito Cereno, Moby Dick*
DEDEKIND *Essay on the Theory of Numbers*
ESSAYS BY *Boscovich, Thomas Young*

SENIOR YEAR

SHAKESPEARE *Antony and Cleopatra*
MOLIERE *The Misanthrope, Tartuffe*
GOETHE *Faust*
HEGEL *Introduction to the History of Philosophy, Preface to the Phenomenology, Logic (from the Encyclopedia), Philosophy of History, Philosophy of Right, Philosophy of Spirit*
LOBACHEVSKY *Theory of Parallels*
TOCQUEVILLE *Democracy in America*
LINCOLN *Speeches*
KIERKEGAARD *Philosophical Fragments, Fear and Trembling*
WAGNER *Tristan and Isolde*
THOREAU *Walden*

MARX *Communist Manifesto, Capital, The Economic and Philosophic Manuscripts of 1844*
DOSTOEVSKI *Brothers Karamazov, The Possessed*
TOLSTOY *War and Peace*
LEWIS CARROLL *Alice in Wonderland*
MARK TWAIN *The Adventures of Huckleberry Finn*
WILLIAM JAMES *Psychology, Briefer Course*
NIETZSCHE *Birth of Tragedy, Thus Spake Zarathustra, Beyond Good and Evil*
FREUD *General Introduction to Psychoanalysis, Civilization and Its Discontents, Beyond the Pleasure Principle*
VALERY *Poems*
JUNG *Two Essays in Analytic Psychology*
MANN *Death in Venice*
KAFKA *The Trial*
HEIDEGGER *What is Philosophy?*
HEISENBERG *The Physical Principles of the Quantum Theory*
SUPREME COURT OPINIONS
MILLIKAN *The Electron*
POEMS BY *Yeats, T. S. Eliot, Wallace Stevens, Baudelaire, Rimbaud, and others*
ESSAYS BY *Faraday, Lorenz, J. J. Thomson, Whitehead, Minkowski, Rutherford, Einstein, Davisson, Bohr, Schroedinger*

thematic-based

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INTRODUCTION

AN INTEGRATED APPROACH TO KNOWLEDGE

UWGB's environmental focus provides an integrated approach to knowledge that pervades every facet of campus life. Not only are classroom activities and ideas made relevant but students also participate in a variety of activities outside the classroom, both on the campus and in the community, that are designed to enrich their educational experience.

The four colleges of UWGB—Community Sciences, Creative Communication, Environmental Sciences, and Human Biology—are organized around environmental themes rather than according to traditional disciplines. The names suggest the focus of each college and its particular area of teaching, research, and community outreach activity. The School of Professional Studies complements the theme colleges and is responsible for professional programs that relate to them.

Each student at UWGB selects a particular environmental theme to study in depth. Called concentrations, or majors, these areas of study cross disciplinary and college lines. The student also has the opportunity to study a second, more intensified, field when he or she selects an option, or co-major, along with a concentration. He/she is expected to relate work in the option—sociology, for example—to the broader area of the concentration—urban analysis, for example. The student who wishes to gain professional competence to complement the concentration or concentration-option has a third choice available in a variety of professional minors, called collaterals, and preprofessional programs leading to specialized or graduate work.

The student normally enters the college or school in which he/she expects to major at the beginning of the sophomore year. By the junior year the concentration or concentration-option and the professional collateral, if any, should be selected.

THE COLLEGE OF COMMUNITY SCIENCES

The College of Community Sciences (CCS) offers programs focusing upon the role of men and women in the social environment and the processes by which they modify it. The college accents those areas of understanding and perception that serve to prepare contemporary students for effective careers and citizen participation in communities at all levels from the local to the international.

SOURCE: UNIVERSITY OF WISCONSIN AT GREEN BAY
(Excerpted from the 1975 Bulletin of the University of Wisconsin at Green Bay, with the permission of the institution.)

Programs emphasize the comparative aspects of the community sciences, relating the modes of analysis characteristic of the community sciences to the Northern Great Lakes region and to other parts of the nation and the world.

The Modernization Processes, Regional Analysis, and Urban Analysis concentrations make up the College of Community Sciences. Because men and women are beings of many environments, our education should not confine us to a limited view of ourselves. A person is not only a social creature and an ecological organism, but also a seeker after aesthetic, intellectual, and spiritual fulfillment. Although it behooves us to accept the limitations and challenges of our animal ancestry, we must at the same time develop as profoundly as possible a unique self-awareness. UWGB believes that the traditional walls between disciplines, which too often give students narrow conceptions of themselves, are not only artificial and irrelevant, but dangerous as well.

The unfortunate results of the traditional compartmentalized education are all around us. On religious and political grounds we have exterminated each other. On economic and technological grounds we polluted our water, poisoned our air, raped our land, and are well on our way toward annihilating ourselves through our single-minded and arrogant exploitation of our natural surroundings.

The College of Creative Communication (CCC) offers the dimensions of aesthetics and of values and some understanding of the ways in which they are perceived and transmitted. It offers the humane dimension that assigns meaning and significance to our biological, social, and scientific environments. In short, it offers the concepts of unity, truth, and beauty which are, or should be, the words that suggest the ultimate values of our human dimension. The concentrations in the College of Creative Communication are Communication-Action and Humanism and Cultural Change.

THE COLLEGE OF ENVIRONMENTAL SCIENCES

The College of Environmental Sciences (CES) offers programs designed to develop the concept of ecosystems and to provide an understanding of the exchange of materials and energy between living organisms and their physical and chemical environment, the use and management of natural resources and alterations of ecosystems due to air, water, and soil pollution. These programs seek to prepare students to participate in solving the problems of environmental quality and in managing natural resources.

CES contains the concentrations in Ecosystems Analysis and Environmental Science is expected to provide additional flexibility in program planning for science-oriented students.

THE COLLEGE OF HUMAN BIOLOGY

The programs of the College of Human Biology (CHB) are concerned with the theme of humans in relation to their environment. Alone, and in populations, we are subjected to many extensive and serious problems. Often under conditions of overcrowding and malnutrition, we must strive for healthy and meaningful growth and development. Of utmost concern is the ability to adapt to these environmental stresses which, although well-documented, are inadequately understood.

The role of CHB is to prepare students to work in these stress areas in response to the needs of our society. This preparation requires an understanding of biology and behavior at every stage of the life cycle. Four concentrations make up CHB: Growth and Development, Human Adaptability, Nutritional Sciences, and Population Dynamics.

THE SCHOOL OF PROFESSIONAL STUDIES

The School of Professional Studies is made up of a professional concentration in Managerial Systems and four collaterals (or professional minors). Managerial Systems is designed for the student who wishes to focus on the fields of business or public administration. Teacher certification is available through the professional collateral in education. The combination or concentration-option provides a program which results in certification to teach at the elementary or secondary level in the public schools of Wisconsin, and, on a reciprocal basis, in some 35 other states.

CONCENTRATIONS

Communication-Action (College of Creative Communication): The role and effects of all kinds of communications in the human environment are the concerns of this concentration. These include aesthetic education, design (including environmental design), interpersonal communications, language, mass media, music, photography, theater, and the visual arts.

Growth and Development (College of Human Biology): How people grow and develop in today's society is the focus of this concentration. The concentration deals with individual development throughout the life span and how the process of development is influenced by both internal and external factors. The concentration stresses studying the normal human life cycle and how the life cycle is shaped for good or bad by biological factors, social factors, and the values of the culture.

Human Adaptability (College of Human Biology): Human adjustment to the stresses of today's industrialized and urbanized society is the concern of the concentration in Human Adaptability. The concentration has four major areas of study—physiology, psychology, anthropology, and sociology. This concentration can prepare you for medical, dental, and veterinary schools as well as for careers in medical technology, paramedics, public health and other health-related sciences, several areas of education, and social work.

Humanism and Cultural Change (College of Creative Communication): Belief in modern humans' responsibility to the total environment—the environment of thought, values, society, technology and nature—is the basis for this concentration. The traditional humanistic disciplines such as history, philosophy, literature, and the arts are treated not as separate but as interrelated and complementary. This concentration also stresses that the humanities and the sciences are not exclusive, but are equally vital and indispensable aspects of our world.

Managerial Systems (School of Professional Studies): The world of business and all of the skills it includes is the interest of this concentration. Through Managerial Systems you can prepare to become a professional in business administration, accounting, public administration, or government service.

Modernization Processes (College of Community Sciences): The nature of social change from cultural, political, and economic points of view is investigated in this concentration. The concentration draws resources from subjects such as sociology, anthropology, psychology, economics, history, and political science. Nine different problem areas have been identified around which the student may focus his studies. These include topics such as social action; women's studies; international development and underdevelopment; planning, technology, and the environment; and others.

Nutritional Sciences (College of Human Biology): The problems involved in assuring people adequate diets are central to this concentration. Nutritional Sciences identifies two emphases. Community Nutrition can prepare you to apply nutritional principles to practical community work in public health departments, social service agencies, and schools. Industrial Nutrition will prepare you to work as a research technician or scientist, consumer relations advisor, food evaluator, or product promotion specialist.

Population Dynamics (College of Human Biology): Problems related to or caused by growing populations—of humans and other organisms—are central to this concentration. Population Dynamics can help you prepare for careers which use demographic studies for social services, and education, as well as fields involving the study and control of nonhuman populations such as recreational and wildlife area management.

Regional Analysis (College of Community Sciences): The way humans use the space on the earth is the primary problem area dealt with in this concentration. In the concentration you can learn to do exactly what its name suggests—analyze a region—in order to study and propose solutions to problems of humans' use and abuse of the total environment.

Science and Environmental Change (College of Environmental Sciences): Approaching environmental problems with a sound understanding of the scientific principles which govern the natural world is the goal of this concentration. Three distinct areas have been defined. If you choose the Theory and Technology area it is assumed your aptitudes and interests lead you toward developing competence in rigorous scientific techniques and knowledge. If you choose the Management and Administration area, you will combine scientific studies with those in the social sciences and economics. The Communication and Interpretation area will prepare you to communicate scientific and technological information.

Urban Analysis (College of Community Sciences): The nature of urban life and the processes—physical, social, and cultural—by which cities emerge, persist, and change over time are examined. If you choose the concentration, it will be expected that you share with its faculty a concern for the quality of life and relationships among humans. You will be encouraged to put the insights of your academic study to use in practical experience.

Personal Concentration: If your educational objectives cannot be met by any existing concentration or combination of concentration-option and/or collateral, you may devise a personal concentration. In order to plan a personal concentration, you must determine your personal goals and how the opportunities and resources at UWGB can help you reach them. Then you must define your educational objectives and design an educational program to meet them.

ALL-UNIVERSITY REQUIREMENTS

An undergraduate education is a liberating experience. In the context of additional knowledge, this experience takes place as students develop their processes of thinking and review and reinforce their values and sense of commitment. To this end, UWGB has established certain all-University requirements.

Firmly required courses are few in number, however, and even within the general requirements the student may take most required courses on a pass-no credit basis, except the Liberal Education Seminars and those courses that are part of the concentration (major) option (co-major), and/or collateral (professional minor). The student may also be able to satisfy some of the requirements by special examination.

Prerequisites which indicate the level of proficiency required to carry a course are essentially advisory and will often be waived, allowing the student to register for the course by demonstrating proficiency and obtaining the consent of the instructor in advance.

All-University requirements fall into two major categories: Liberal Education Seminars and distribution courses. In addition, many concentrations require mastery of certain tool subjects.

LIBERAL EDUCATION SEMINARS

The Liberal Education Seminars constitute a core program continuing throughout the undergraduate experience at UWGB. Within the program, each student is engaged in a variety of learning experiences which relate classic and contemporary environmental problems and to perennial human concerns.

As a freshman, the student has the opportunity to choose four seven-week modules from a list of topics such as: the human condition in world perspective, technology and human values, resource utilization and the American character, crises in communication, contemporary moral problems, and others. By the end of the year, the student has become acquainted with several faculty members and their perspectives on human affairs, has had an opportunity to explore something of the range and complexity of issues facing us as persons and as a nation, and has had a chance to sort out some of his/her own interests in regard to his/her own education.

During the intermediate years (sophomore and junior), the student has the opportunity to learn how to usefully become involved in the community and in other cultures. Usually there is a project associated with this portion of LES, and the learner is its designer—taking major responsibility for the content and for developing skills in working with other persons and groups outside the University. The student also has the opportunity to make cross-cultural comparisons with fellow students, thus gaining further insights into the complex social world.

At the senior level, and after a great deal of learning experience within one of the concentrations, the student has a chance to integrate his/her knowledge and experiences with those of students from many other concentrations. Working with themes such as social consciousness and the scientist; culture, community, and environment in America; and others, the student can apply what he/she has learned to continuing issues in our culture and the world.

Students begin by analyzing common values and assumptions and synthesizing them into a generalized conceptual overview; return to the concrete by applying such conceptualizations to the theme; and, finally, go beyond prior assumptions by examining the nature and quality of the human condition from new perspectives.

LES exists to ensure that the student doesn't settle too quickly for viewing things in life from only one perspective. Educated persons are all expected to make some contribution to the world, and to do so with knowledge and skill would be gained primarily through one department and discipline.

At UWGB, the student works with a concentration, which already brings several disciplines to bear upon a cluster of problems within one area of life. This interdisciplinary approach to education is made even broader in LES. The kinds of complex issues facing us do not find solution from narrow perspectives. In order to be effective citizens, we need as wide a range of awareness and sensitivity to human affairs as we can get. LES exists to help the student gain that kind of awareness.

Moreover, LES involves good reading and careful writing, critical thinking and creative imagination, thoughtful listening and articulate speaking—intellectual and social skills a person needs no matter what he or she does after graduation from college.

All 18 credits of the Liberal Education Seminars program must be taken for letter grades. Students are referred to the sub-program handbooks for a full listing of freshman modules, intermediate packages, and senior seminars, foreign travel programs associated with intermediate LES, and other details.

DISTRIBUTION

A man or woman educated for today's world has broad intellectual interests and some background, at least, in environmental problems and disciplines. At UWGB, intellectual breadth is encouraged in a number of ways. Each of the theme colleges is broadly interdisciplinary. The Liberal Education Seminars bring together students and professors from all theme colleges in their consideration of ecological problems. And students may freely elect any course for which they are qualified.

In order to encourage as much breadth as possible in undergraduate education, the University requires a student to earn a minimum of five credits in each of the four theme colleges. Concentration courses and option courses may be used to fulfill the distribution requirement (see the note preceding the course listings). Any course for which the student is qualified may be chosen, although some of the theme colleges offer certain courses that are particularly appropriate. Distribution courses may be taken on a pass-no credit basis. Alternatively, the student can satisfy all or part of the requirement by examination.

competency-based

3

INTRODUCTION

Affiliated with the Catholic Church, Alverno College offers a liberal arts degree to a student population of approximately 850 women. The academic year is divided into two semesters, beginning in late August and extending through May.

At present, the educational process at Alverno represents the Institution's "decision to make explicit in terms of demonstrably achieved competencies, the definition of the degree we award." Illustrating this decision is the design for liberal learning in a management context. The two major aspects of this concept are:

1. functionally defining liberal education by breaking down the concept of productive personal development into a set of student goals to be accomplished, and
2. planning for the achievement of those goals in terms of strategic components of the management context—management of change, academic experience, and professional direction.

Following is a description of the competency-based learning experience at Alverno College.

THE CURRICULUM

It has been three full years since we at Alverno College began working with a curriculum centered on student competence as its outcome. Our program has taken enough shape, and we have gained enough experience with it that we can now make a more comprehensive attempt to inform our colleagues as to what we are doing and why.

More clearly traceable to Alverno's early heritage was our interest in the incoming student's orientation to college learning. Many of us were accustomed to think about the life of the educated person in such terms as "calling" and "mission." We tried, in orientation, to alert incoming students to this life—its values, its rewards, and its strict demands.

We were seldom satisfied with our orientation programs. But judging from our graduates' reputations as teachers, nurses, and community leaders, Alverno seems to have imparted a compelling awareness of the obligations higher education imposes.

Being a college for women gave us a special focus. Educating women for professional careers, we had inevitably encountered their lack of

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SOURCE: ALVERNO COLLEGE, 3401 SOUTH 39TH STREET, MILWAUKEE, WISCONSIN
(Excerpted from *Liberal Learning at Alverno College*, "The Alverno Curriculum," with the permission of the institution.)

preparation to assume or even aspire to socially responsible roles. We had already committed ourselves, in our 1972 decision to remain a women's college, to continue responding to this need as a central part of our educational mission.

EIGHT AREAS OF COMPETENCE

Each section of the following essay briefly outlines one of the eight areas of competence toward which we orient our teaching and for demonstration of which we hold our students accountable. The eight outcomes of education at Alverno are:

1. Effective communications ability
2. Analytical capability
3. Problem solving ability
4. Facility in forming value judgments within the decision-making process
5. Effective social interaction
6. Understanding of individual/environmental relationships
7. Understanding of the contemporary world
8. Educated responsiveness to the arts and humanities

The description of each competence begins with a sketch of how we understand that competence and its place in liberal education. We then review the developmental levels—the learning sequence of the competence—starting with the four "general" levels required of every student.

We also describe two further "specialized" levels in each competence area. The student pursues these as a necessary part of her chosen Area of Specialization (roughly similar to an academic or professional major) being required to develop to "specialized" levels those competences particularly appropriate to her Area.

From the student's perspective, there are 32 "general" levels—four in each competence area—which she must attain and demonstrate. In addition, when she has chosen an Area of Concentration, she will become responsible for eight "specialized" levels.

At all levels of competence, multiple validations are required. Thus the student may, for example, be required to demonstrate a Level 1 competence in Analysis in three different courses during her first year. She is free, however, to choose when and in which of her eligible courses she will attempt her demonstrations.

The majority of our students find that achieving the 32 basic levels occupies about half of their time at Alverno, most of that in the first two years. A student is usually absorbed in work for her Area of Specialization, including her specialized competences, for her last two years. This may include a smaller number of courses, partly due to an increased use of on and off campus experiential learning opportunities, and partly because the projects she is involved in at this level are more extensive.

Distinctions between "freshman," "sophomore," and so on have all but disappeared. Few students as yet show any tendency to deviate very far from a four-year degree pattern. However, the proportion of midyear graduates is growing steadily.

While we still count semester hours for student transfers, funding, and other outside reporting, they are less and less used to create pre-defined career preparation paths. We still find them valuable as a record of the student's knowledge base, although we do not attach grades.

EFFECTIVE COMMUNICATIONS ABILITY

Communications as a required competence in the Alverno learning program focuses on sustained presentation of messages by the student as sender, and on response by the student as receiver to a variety of presentations.

A student develops the ability to make clear and forceful presentations of any message she sends, with and without the aid of graphs, visuals and electronic media. She also learns to take in such presentations—even if they lack clarity and force—so that she can make meaning from them in relation to her thinking and her life.

The criteria of effectiveness in this process are all based on *clarification* and *involvement*. When the student developing her communications competence speaks, writes, graphs, or presents in mixed media, she must clarify her message for an audience and use means to involve them in it. Reading, listening to, or interpreting a presentation, she must clarify the sense of the message for herself and involve herself with it.

GENERAL COMPETENCE: LEVELS 1-4 Level 1 of the Communications Competence starts the student on a track of *self-assessment* toward more effective performance. She has done speaking, writing, reading, listening, and perhaps some graphing before she came to college. Now she exercises each of these in situations involving explanation and/or persuasion based on non-technical information. In the process she learns to isolate and analyze her strengths and weaknesses, so she can consciously work at development and can understand her own successes enough to repeat them.

At Level 2 the student works with model performances within different disciplines to increase her understanding of the strengths and weaknesses she has discovered. She *analyzes models* in speaking and writing, sometimes supplemented by graph making. In doing so, she consciously practices listening, reading, and interpreting.

The student at Levels 3 and 4 develops *effective performance* by building on her strengths and eliminating obstructive weaknesses. She puts into practice her growing understanding of effective communications and of herself as a communicator.

She performs as a speaker, writer, and grapher of information. In a speaking situation, she shows that she can use graphs and other simple visuals effectively. She shows that she can analytically listen to and read verbal communications and graphs. And in listening, she shows that she understands the effect of more complex media on the presentation of information.

At Level 4 the student continues her development by working with increasingly *complex content*. Here each situation involves clarifying basic concepts, like biological adaptation or civil rights, from three different areas of knowledge. In a situation that integrates all her communication abilities, she demonstrates ability to adapt her message to a variety of audiences and purposes.

SPECIALIZED COMPETENCE: LEVELS 5-6 The student develops these levels of the Communications Competence within the context of her Area of Concentration, such as religious studies or education.

With this background, she now studies communications theory at Level 5, and begins to interiorize some integrating concepts. She develops a theoretical understanding of several aspects of meaning and form. She learns how and why some things clarify while others confuse. She learns which aspects in a communications encounter work to involve the audience and which tend to dissociate them. She must then apply these understandings in responding to a presentation, and in planning and executing one.

At Level 6 the student develops her ability to respond to her audience, in different situations related ot her discipline or profession, with an integrated presentation of an extended message. She addresses a variety of audiences, each for a different purpose.

The student who achieves Level 6 competence has developed an understanding of how meaning is made from experience in the process of communicating. She has cultivated a repertoire of abilities with which to contribute to the making of meaning in her society.

ANALYTICAL CAPABILITY

In Plato's academy, in the Renaissance "trivium" (rhetoric, logic, and grammar), and in modern "general education" requirements, educators seem always to have valued a fundamental competence in "clear thinking" as essential to the well educated person.

Educators have thus been committed to the development of human reason for nearly as long as the historian can help us remember. Yet it is more common for students today to study the *products* of reason rather than the *process*—to become adept at reiterating and cataloging the products instead of creating their own unique fusions of experience and reason.

GENERAL COMPETENCE: LEVELS 1-4 The entire range of what is generally called "cognitive skill development" is included in the six developmental levels of the Analysis Competence. The student learns to analyze different *works*—problems, situations, issues, ideas, substances or processes—in a manner which is primarily inductive.

A student analyzing a short story might thus demonstrate Level 1 competence by identifying the story's most obvious components, such as narrator, setting, characters and chronology of events. She would also be asked to show some awareness that more subtle elements, such as conflict and tone, can be identified only through reasonable inference.

Level 2 then focuses on the student's ability to *infer* significant implicit components of a work and requires her to distinguish reasonably between fact and inference, evidence and assumption. For example, a student in a literature class might learn to infer a theory of human motivation from several authors' portrayals of a person's intent and subsequent conduct.

The student moves toward Level 3 competence as she begins to see how some of her inferences about specific, isolated parts of a work *relate* either causally or functionally to one another. She also begins developing more sophisticated classification schemes to organize her understanding of a work.

At Level 3, the student has not necessarily shown how all the patterns or relationships she has identified fit with each other to explain the whole work. This is the essence of Level 4—discovering organizational unity in a work, and learning to *integrate* most or all of the patterns discovered at Level 3 and arrive at a description of unity or at conclusions about meaning. A student in a nursing course, for instance, might be asked to analyze the relationships among certain key factors known to influence nutritional adequacy in individuals adapting to adolescence, pregnancy, lactation or old age in order to determine whether a prescribed diet meets RDA standards.

SPECIALIZED COMPETENCE: LEVELS 5-6 At Level 5 her main goal here is to become a habitual analyst: to perceive the myriad ways in which one can proceed analytically. She learns to test her own analytic procedures against those employed by "experts" in her field.

She also learns to vary her analysis and conclusions by the application of different "theoretical frameworks." This means, essentially, that she learns to analyze from a variety of perspectives, not always taking the same approach to every work. She studies at Level 5 under the close guidance and supervision of professionals in her area of specialization.

At Level 6, on the other hand, the student demonstrates her ability to work independently on a single large, complex project. Here, she must use all her previously developed analytic skills to unravel the work; she must show that she can draw verifiable conclusions while dealing with a complex work, or a set of works tied together by a common denominator.

PROBLEM SOLVING ABILITY

The competence is focused on developing a student's ability to get things done through a conscious, organized process. At the advanced levels, it further explores the distinction between working toward a goal and the accomplishment of that goal.

At the same time, however, problem solving calls for its own unique and often difficult-to-assess qualities. One is the imaginative ability to project consequences, and to pursue intuitive "hunches." Another is the affective strength to risk implementing a solution, and to persist in the face of drudgery and frustration. A third is the feasibility to adapt to constraints, and to accept and learn from negative results.

GENERAL COMPETENCE: LEVELS 1-4 At Level 1, the student *learns theoretical frameworks* for problem solving. She isolates the assumptions, techniques and limitations inherent in several different approaches. She comes to recognize the common elements in models from a variety of disciplines.

For instance, the scientific method used in chemistry or biology will usually involve lab experimentation and the use of controls. A philosophical approach, on the other hand, is likely to depend on logic and questioning techniques.

The student works at Level 2 on what is probably the most difficult part of problem solving: *defining the problem*. It is not enough that she be given a problem and, applying a specified approach, design a solution. She must become able to discern in an unfocused situation what the problem is, and to formulate its central question clearly.

At Level 3, the student actually *employs the process* of problem solving. She is responsible for defining a problem, designing a solution process and carrying it out. At this level she will often develop genuinely new data—such as that generated by a field survey or a lab experiment—rather than rearranging information from other sources. She also writes a descriptive log or abstract, explaining her methods and conclusions.

At Level 4 the student *compares approaches* to problem solving. This comparison may take many forms. For example, in a psychology course a student may investigate experimentally the question of which of two leadership styles is more effective in working with adolescents. In a musicianship course she may be required to create a piano composition within certain prescribed constraints. Then she may compare the approaches used in the two problem situations from the standpoint of assumptions involved, risks taken, certainty of results obtained, alternative solutions, and so forth.

SPECIALIZED COMPETENCE: LEVELS 5-6 The student who enters the advanced levels is called upon in Level 5 to design and implement an original problem solving project that challenges the range and depth of her specialized knowledge, and necessitates her directing or collaborating with others.

At Level 6, the student functions independently as a problem solver in a number of different situations. Her assessors focus here on whether she has internalized the elements of an effective problem solving approach.

She is expected to show ability to perceive and define problems from ambiguous situations; to concentrate and persist until a task is completed; to accept uncertainty and act upon limited information; to generate feasible alternatives, and to respond creatively to constraints, changes and her own evaluation of her performance.

FACILITY IN FORMING VALUE JUDGMENTS WITHIN THE DECISION-MAKING PROCESS

Decisions about "What is the good?" and "What is worth striving for?" are implicit in every human endeavor. The attempt to make those decisions explicit, to deal consciously and consistently with such questions, is one of the classic enterprises of the mind.

In the spirit of this enterprise, the Alverno faculty addresses itself directly to developing a student's abilities to discern values, to resolve value conflicts through a decision-making process, and to evolve and articulate a personal value framework for committed living.

GENERAL COMPETENCE: LEVELS 1-4 The first major task to engage the student at Level 1 is *making values explicit*. She works at identifying those beliefs and attitudes by which she understands and organizes her experience. She works at becoming aware of the sources of her values, and the relationships between them.

Through recorded journals and logs, through simulation and role playing the student examines her own behavior patterns for the values they express. She looks at her decisions, and the processes by which she makes them, and begins developing a vocabulary with which to analyze values and decisions.

At Level 2, the student extends her attention beyond individual values to historical and cultural expressions. *Inferring values* from literary, artistic, historical, philosophical and religious works, she begins to understand the impact of individual and group value choices upon the human community.

The student at Level 3 looks at some problems of *valuing technological change*. She examines how scientific developments influence the scope and consequences of responsible moral decision making.

At Level 4 the student *applies* valuing to the process of decision making. First, she examines the role of valuing in several instances of both personal and public decision making.

Then, in a selected context, she formulates goals from a complex of issues. She identifies the values underlying these goals, then works through the process of accomplishing them in a decision making plan of her own design.

At this level, the student gains facility in several skills she has been developing. She projects consequences, develops alternatives, identified resources and obstacles—and learns to apply her own and/or group values at each step. Finally, she practices reviewing and evaluating her own decision making behavior.

SPECIALIZED COMPETENCE: LEVELS 5-6 At Level 5, the student broadens her understanding of value dimensions in cross-cultural problems. Through experiential learning in the local community off campus, she becomes more familiar with the ways of life of other people. Interacting with persons of different cultures and convictions, she examines the deep value assumptions and attitudes that underlie cultural differentiation.

Level 6 directs the student's energies into the complementary process—articulating and expounding her own value judgments. She works to synthesize her own constellation of value and goal decisions about a selected issue, then distinguishes her judgments from alternate patterns generated by differing cultural, disciplinary or other approaches.

EFFECTIVE SOCIAL INTERACTION

Competence in dealing with others is crucial to personal professional success. A society that accomplishes the bulk of its work in consultation, discussion and debate, on committees and task forces, must depend heavily upon those members who can be effective in interpersonal situations.

Effective social interaction, as defined at Alverno, is two-fold: interpersonal competence in one-to-one situations, and competence in task oriented groups. Though the two overlap considerably, certain abilities characteristic of each have been distinguished for the purposes of learning and assessment.

GENERAL COMPETENCE: LEVELS 1-4 Level 1 initiates the student by requiring her to *observe and assess* her own behavior in a task oriented group. This initial group simulation exercise, and the subsequent feedback sessions with an assessor, help her to identify and evaluate her interpersonal behavior patterns. These include her ability to perceive the effect on others of her verbal and non-verbal contributions, her ability to articulate her own goal in the situation and that of the group, and her ability to assume roles designed to help the group achieve its objectives.

With some first-hand experience observing and assessing interactive behavior in a group, the student at Level 2 begins *analyzing* social behavior systematically. She learns theoretical frameworks for both one-to-one and group situations, employing them in live and videotaped seminar and laboratory sessions.

Level 3 engages the student further in *evaluating* interpersonal effectiveness. In her increasingly complex analysis of group processes, she learns to discern proximate and long-term goals, and to make critical judgments regarding the effectiveness of both her own and others' specific choices of behavior.

At Level 4, the student is required to demonstrate *effective behavior* in a variety of settings, according to criteria she and her assessors have agreed upon. The settings vary depending upon her individual academic and career directions.

Examples include a panel discussion leader's role in a biology seminar, chairing a student senate meeting, or an interview with a prospective field experience mentor.

SPECIALIZED COMPETENCE: LEVELS 5-6 Level 5 extends the student's operating range, by having her demonstrate her interaction skills during task oriented activities amid various cultures and subcultures.

Three criteria are looked at with special care: her ability to manage the demands for conformity and/or change imposed by the task; her ability to relate to things, to information and to people in accomplishing the task; and her ability to appropriately perform specific roles.

Both Level 5 and Level 6 require consistency—the demonstration of competence over a period of time. At Level 6 this commitment of sustained effort is directed toward organizational activity.

UNDERSTANDING OF INDIVIDUAL/ENVIRONMENT RELATIONSHIPS

Since classical times, the *economic* "ruling the household" and *civic* "participating in the city" arts have been among the most highly esteemed fruits of education. In our highly urbanized society, learning to manage one's life effectively is perhaps more critical—and more difficult—than ever.

These concerns lie at the heart of the Environmental Competence at Alverno College. It is developed in a series of learning situations that enable the student to understand and deal with the complexity and ambiguity of the metropolitan environment, and that habituate her to making the difficult decisions needed to maintain and improve life for herself and her fellow citizens.

GENERAL COMPETENCE: LEVELS 1-4 Most students enter college today with little systematic understanding of environmental concepts. As an introduction, therefore, the student learns to identify basic components of a metropolitan environment. The natural sciences provide her with concepts for analyzing its natural and technological aspects. From the behavioral and social sciences, she learns to see its social, political and economic dimensions.

Understanding the environment also requires a synthetic capability. The more the student learns to *perceive and analyze* the environment's components, the more they pose problems of integration for her. Level 1 therefore provides her with a systematic framework, enabling her to work toward an integrated approach.

When she has demonstrated her ability to perceive components of the environment and to synthesize a systematic understanding of their interrelationships, the student at Level 2 focuses on the *human component*—the individual person or group in the urban environment.

At Level 3, the student develops an understanding of the interaction effects of *cultural and physical settings* upon group behavior. This complements Level 2, in that it examines how the environment affects people.

In the first three levels, the student operates mainly as an observer and analyzer. She takes no active role in the environments she studies. At Level 4, she moves beyond observing toward identifying problems and *making decisions* in a given environmental context.

The student herself must select an environmental problem and create alternative solutions for it. She must first show that the problem is researchable and that the information it yields can be generalized. She then delimits the problem, identifies the goals to be achieved, and outlines several alternate means of achieving them. She concludes by analyzing the alternatives for feasibility, cultural acceptability and technical accuracy.

SPECIALIZED COMPETENCE: LEVELS 5-6 Level 5 requires the student to assess the consequences of various courses of action in a given environment, and the likelihood that given goals can be achieved. While expanding already developed skills, this level stresses the ability to weigh risks and calculate probabilities.

At Level 5, the student has focused on developing and analyzing alternative modes of solution for an environmental problem. At Level 6, she must defend her choice among the alternative paths, and develop detailed strategies for implementing her choice.

She learns to apply such basic implementation concepts as where decisions are made in the system, which lines of communication are available, how to mobilize support and generate formal action, and how to develop a working timeline.

UNDERSTANDING OF THE CONTEMPORARY WORLD

The end and essence of *liberal* education is freedom, and to live in freedom is to develop responsibility for self and society. This latter responsibility—the social function of the educated person—is defined by the Alverno faculty as the Contemporary World Competence.

GENERAL COMPETENCE: LEVELS 1-4 Involvement, concern and a sense of responsibility are grounded in *awareness*. A student, therefore, in developing the Level 1 competence broadens her understanding of the contemporary world in both formal and informal learning settings.

At Level 2 the student deepens her ability to understand the complexities of the contemporary world by pursuing a question in its *historical context*. She explores selected events in any of a number of contexts: a scientific breakthrough or a Nobel award, under the direction of her science professor; a Supreme Court decision affecting committal of patients, with the direction of her psychology professor; and so on.

At Level 3 her pursuit of responsibility is broadened by *specifying relationships* among various contemporary events and conditions. Probable cause-effect relationships are focused upon, to promote understanding of the immediate and long-range consequences of such events as legislative actions, scientific discoveries, economic decisions or artistic creations.

At Level 4 the student explores the contemporary world as a *global system*, in which events in one society impact upon other societies in ways that cut across the spectrum of human activity. A physical—like drought in Africa—has political, social and economic consequences, for people in the immediate area and also for other societies, who may be affected in turn by these consequences or by the desire to influence the situation based on their own values and interests.

SPECIALIZED COMPETENCE: LEVELS 5-6 Level 5 requires demonstration of a student's ability to research a complex contemporary world issue and of her acceptance of personal responsibility with respect to that issue or some aspect of it. Besides utilizing the available written and other resources for information and analysis, she is required to undertake field work in probing the issue.

The student then undertakes, at Level 6, to define and make public her personal position regarding the implications of a contemporary event. After setting forth her position before a public audience, she analyzes her impact on their views and, in the light of audience responses, reassesses her own position. The student thus demonstrates the ability to formulate a position based on her own synthesis, to present that position publicly, and to examine the effects of her interaction with other informed citizens.

EDUCATED RESPONSIVENESS TO THE ARTS AND HUMANITIES

Without providing a neat rationale, society has consistently required of the liberally educated adult a degree of aesthetic understanding and sensitivity. The Alverno student, who is required to demonstrate Aesthetic Competence, learns to ask why art is important to society and to probe the question with an ongoing discovery of what can be expressed verbally and what must be expressed symbolically. She learns to perceive, analyze, and evaluate the kinds of patterns that create an aesthetic effect wherever they exist.

GENERAL COMPETENCE: LEVELS 1-4 At Level 1 the student *establishes a framework for breadth* by studying one art and two humanities (or vice versa). She learns the elements that characterize medium and mode in each given art and the method of the humanity.

She develops her ability to identify the basic formal elements in an art work, whether it is an existing piece like a Breughel painting or a Shakespeare sonnet, a Brahms sonata she performs herself, or an original piece of her own creation. She also learns to articulate her response, and to analyze how the organization of the work relates to emotional effects in the perceiver.

At Level 2, the student moves to *comparative analysis*, clarifying the commonalities and the differences among these modes of expression. She works with at least two art forms, and she also focuses on one work from the humanities as aesthetic expression.

She might, for example, analyze works of sculpture and poetry to discover their commonalities and differences and then examine the aesthetic dimensions of a philosophical or literary work.

The student at Level 3 continues to analyze human expression for the effects of form on relationships within content—here, an *individual to society*. Studying works specifically in the humanities, she discovers how their methods imply certain questions and assumptions about the human person's relation to social matrix. Reading Aristotle and Sartre, for example, she may see that certain responses to general, philosophical problems lead to a stance of social identification, while others yield alienation.

Level 4 further expands the student's competence by drawing her to make comparative analyses beyond the boundaries of her own culture. From careful observation and analysis, she learns to generalize about an artistic genre in her own culture and in another culture different from but related to it. She compares the *approaches of two cultures* to basic humanistic questions as well.

SPECIALIZED COMPETENCE: LEVELS 5-6 At Level 5, she develops the ability to make a persuasive formal presentation in which she communicates her judgments about the meaning and value of a complex artistic or humanistic work, utilizing her analytic insight and sensitivity to relationships of form and content. The student at this level is also expected to exhibit a consistent, educated response to works in her chosen field and to perceive connections with related arts and humanities.

Level 6 requires that the student take another step in commitment to a lifelong involvement with arts and/or humanities. She must develop facility of expression in at least one art medium or mode in the humanities, and she must establish and articulate her commitment to its importance. In effect, she has at this level chosen to make a creative statement that embodies her personal aesthetic/humanistic perspective as part of her ongoing effort to create and discover meaning in her life.

career-based

4

INTRODUCTION

Warren Wilson is a liberal arts college with an agrarian base. One of the unique aspects of the college is the on-campus work program. Warren Wilson owns 1,000 acres of forest and farmland, and operates a beef and hog operation as well as a modest produce garden for faculty and off-campus people.

The academic core curriculum program includes ten categories. The primary elements are communication skills and the ability to write effectively. Beyond these proficiencies, students explore ways in which we perceive, think and express meaning; process, rather than content is stressed. Students must obtain four semester hours of credit in each of ten different core categories (areas include: Introductory Requirements, Symbolism, Empiricism, Processes in Gaining Subjective Awareness and Knowledge, and Processes in Gaining Synoptic Knowledge). The subject matter in all courses is conveyed with three broad process categories in mind—objective, subjective and synoptic learning. Core categories take a minimum of 40 hours of course work, or around one-third of each student's four-year program.

At the heart of Warren Wilson's mission as an institution is the Work Program. The college combines career preparation with academic learning, providing a rich environment for the student.

THE WORK PROGRAM

The on-campus Work Program consists of approximately 70 work crews, 80 supervisors, and 450 students. *All* resident students work 15 hours a week to earn their room and board ($960.00). The year's work contract is for a total of 480 hours (240 hours a semester). The work is essential to the maintenance of college services.

THE WORK COUNCIL

The Work Council is the main governing body responsible for the over-all operation of the Work Program. It consists of one faculty member, one work supervisor, and six students—all elected. Program development is the chief responsibility of the Council. This includes ways to increase educational opportunities in the Program, the creation of new jobs and revamping old jobs to meet the college's continuing growth and change. Another important responsibility of the Council involves decisions in disciplinary cases. It hears all complaints concerning the Work Program made by the Warren Wilson Community.

SOURCE: WARREN WILSON COLLEGE, SWANNANOA, NORTH CAROLINA
(Excerpted from the 1977 Guide to the Warren Wilson College Work Program and the Work Program Brochure on Campus Job Descriptions, with the permission of the institution.)

Three students are elected at the beginning of each semester to serve one-year terms. To be eligible, a student must have had one semester's experience in the Work Program, not be on social or work probation, have satisfactory work grades, and a 2.00 cumulative QPA (Quality Point Average).

THE WORK DIRECTOR AND ASSISTANTS (THE WORK OFFICE)

The Work Program director is the chief administrator of the program. It is his responsibility to evaluate the performance of supervisors, the size, efficiency, and operation of the work crews and the entire Work Program.

The student assistants in the office are responsible for aiding the Work Director in a variety of administrative jobs. They are selected by the Work Director.

WORK SUPERVISORS

There are approximately 80 work supervisors whose jobs are to organize and supervise their crews. They are responsible for training their crews and enhancing the educational aspects of the work experience as well as being responsible for maintaining the campus. Supervisors are charged with the duty to develop the competency, morale, and effectiveness of their crews. In sum, they train, motivate, communicate, guide, evaluate and relate to students.

Some crews are run by student supervisors or crew bosses who have outstanding capabilities and the necessary experience for organizing and supervising work.

WORK GRADES

Work grades are an evaluation of each student's performance by his or her supervisor. These grades are issued at the end of each term (four times a year) and at the end of the summer work period. One of the requirements of the College is that, in order for a student to graduate, he or she must have maintained a satisfactory work record.

Students are graded on effort and achievement. Once the grades have been entered on the grade card, by the supervisor the student must sign it along with the supervisor's signature. This indicates to the Work Office that the student has discussed the grade with his or her supervisor.

SUPERVISOR AND WORK PROGRAM DIRECTOR EVALUATIONS

At the end of each semester, all students fill out and complete (anonymously) a written evaluation of their supervisor. This evaluation gives students a chance to express their feelings and opinions concerning their work experience and supervisor.

Also, at the end of each semester all supervisors complete (anonymously) a written evaluation of the Work Program director.

JOB CHANGES

Job changes are considered between semesters (fall and spring). Only in unusual circumstances will changes be allowed at other times, such as between 8-week terms within each semester. When a student wishes to make a job change, he or she should come to the Work Office and fill out a Job Change Request form. The Work Office will then do its best to work out the change. Job changes are often difficult because they usually involve at least two supervisors and two students.

All students are able to switch jobs every year, if they desire. Every spring, students complete a Job Preference form (to be used for the coming fall's job placement). Students are asked to state their first six preferences for jobs.

WORK PROBATION

Work probation results when a student accumulates 3 probation points during any 32 successive weeks of participation in the Work Program. Probation points are issued to students who have received work warnings (i.e., for continued tardiness, poor conduct, etc.), have been fired from a job, have broken a vacation work contract, or have received a poor end-of-semester grade.

Those students who receive 3 work probationary points are then placed on "work probation." The Work Council determines the length of the probationary period, the minimum being 10 weeks. If a student on probation receives an additional warning or firing from his supervisor, he will be subject to suspension from the college by action of the Work Council.

WORK PROGRAM DISCIPLINARY ACTIONS

These are issued on the Work Program "Notice of Disciplinary Action" form (Warning, Firing, Vacation Penalty, and Broken Vacation Contract Penalty) by the supervisor or Work Program director. This action is then placed on the student's work record. The student should discuss it with his supervisor, and if he feels it is unjust, then he may appeal the case before the Work Council. This appeal must be made within three days from the time the student received the notice. The appeal must be written, and extra copies must be given to the supervisor and Work Program Director. If the Council votes in favor of the student's appeal, it will be stricken from his work record.

WARNINGS AND FIRINGS

Warnings and Firings are issued when Work Program policies and work crew standards have been abused. A written warning is the lesser penalty (one point), a firing the greater (two points). Warnings and firings are issued for such reasons as repeated tardiness, unauthorized absences, failure to follow instructions, and consistently unsatisfactory job performance.

TIMEKEEPING

One of the Work Office assistants takes care of recording the individual work time for all the students. Time sheets are filled out weekly by work supervisors, and then turned into the Work Office by Tuesday noon to be recorded on a master sheet. The amount of time worked each day is to be recorded accurately on the time sheet by the crew members and then signed by the supervisor at the end of the week before it is turned into the Work Office. For time-keeping purposes, the work week begins on Monday and ends on Sunday. A student may check his or her "cumulative hours" at anytime in the Work Office.

WORK PROGRAM BULLETIN BOARD AND WORK PROGRAM INFORMATION

The established Work Program policies, which have been made over the years by the Work Council, are found in the *Student Handbook*. The work assignment lists for each semester and vacations are posted on the Work Program bulletin board along with agenda for the minutes of the Work Council meetings. Each student is responsible for checking the bulletin board periodically.

JOB DISCRIMINATION POLICY

Job discrimination on the basis of sex, race, national origin, religion or creed is contrary to the philosophy and administration of the Work Program and will *not* be permitted. With the exception of the dormitory janitorial crews, no supervisor should specify sex preference.

Any evidence of discrimination on any work crew should be reported to the Work Program director. It will then be reviewed by the Work Council.

SAMPLE OF CAMPUS JOB DESCRIPTIONS

ACCOUNTING AND BANKING

SUPERVISORS: MR. B, MRS. R, MRS. W*

DESCRIPTION

- *Balance student bank cash (including recording of all deposits and withdrawals, counting of cash, balancing of cards, sending deposit to bank, requesting new cash, etc.)*
- *Handle student banking, staff cashiering, and cash receipts when available.*
- *Post cash receipts for deposit.*
- *Post accounts payable.*
- *Make journal entries.*
- *Dust and clean office area.*
- *Run totals on all student cards–checking against control card total.*
- *Prepare trial balances of [illegible] college accounts.*
- *Reconcile college bank accounts.*
- *Reconcile student bank account and College Work Study Program (CWSP) hourly work slips.*
- *Assemble CWSP hourly work slips.*
- *Post the ledger accounts.*
- *Prepare all payroll cards for students.*
- *Set up ledger cards for new students, showing contract agreement.*

LEARNING OPPORTUNITIES

- *Excellent opportunity to learn the accounting practices of the institution. The supervisors are willing to train students to become familiar with the functions performed in the office. Responsibility is encouraged.*

LEADERSHIP OPPORTUNITIES

- *Leadership opportunities are based on experience and attitude.*

CREW SIZE

- *Seven member crew.*

PREREQUISITES

- *Student must have good attitude and interest. Typing ability is preferred, and accuracy is required.*

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*NAMES HAVE BEEN DELETED

ADMISSIONS OFFICE

SUPERVISORS: MR. C, MISS B

DESCRIPTION

- *Assist in the routine clerical process of handling admissions.*
- *Make A.B. Dick copies.*
- *Answer phone, take messages, etc.*
- *Clean and care for admissions office.*

LEARNING OPPORTUNITIES

- *Students must be well informed about the College because the office represents an important part of the public relations of Warren*
- *Wilson. Students have responsibility and opportunity of showing guests around the campus.*

LEADERSHIP OPPORTUNITIES

- *The supervisor encourages students to be responsible. Leadership is somewhat limited because of the size of the crew and the fact that the supervisors assign work independently.*

CREW SIZE

- *Three full time, one part-time.*

PREREQUISITES

- *Students must be discrete, loyal, neat, and appropriate in dress, prompt, and willing to work overtime on the few occasions that it may be necessary.*

APPALACHIAN STUDIES

SUPERVISOR: MR. D

DESCRIPTION

- *To help with the various aspects of the Appalachian Music Program.*
- *The variety of tasks involved in this job include: arranging publicity for concerts, photography, cataloging records, typing, transcribing words and/or music to songs, preparing materials for a songbook, etc.*

LEARNING OPPORTUNITIES

- *The student will have a long-term project which will be best suited to his/her interest and skills, and the needs of the Appalachian Music*
- *Program. If you have an interest in Appalachian Music, this job will give you many opportunities to develop those interests.*

LEADERSHIP OPPORTUNITIES

- *Basically you will be working on your own, which will require an ability to work well independently of constant supervision. The long-term project will require a majority of work time, but will be interspersed with various other tasks that the student will carry out on his/her own.*

CREW SIZE

- *Two member crew.*

PREREQUISITES

- *The student must be able to work independently, and have an interest in Appalachian music. Special skills will be utilized (such as the ability to transcribe music, or play an instrument) but are not necessary. One of the members of the crew must be able to type.*

ELECTRIC CREW

SUPERVISOR: MR. W

DESCRIPTION

- *The job of this crew is to see that good electric service is maintained over the entire campus. Starting at the C.P. & L. substation, this includes college-owned pole lines and transformers, as well as circuits within buildings. Some of the work involves replacement of lines and fuses and poles, installation of transformers, patrolling lines, trimming trees adjacent to overhead lines, inside wiring, appliance repair and solving heating problems. Safety is taught and practiced at all times, and close supervision is necessary.*

LEARNING OPPORTUNITIES

- *Students on this crew get first-hand experience in electrical work which can be very useful for future-related jobs. Classes in practical electricity are held as often as possible. Uses of the ohmmeter, voltmeter and clip-on ammeter are demonstrated.*

LEADERSHIP OPPORTUNITIES

- *As students learn and demonstrate initiative, they are put in charge of work.*

CREW SIZE

- *Five to six member crew.*

PREREQUISITES

- *Because communication is very essential, it is necessary that all assigned to the crew have a good command of English. Knowledge of elementary electricity is helpful but not essential.*

ENERGY CONSERVATION

SUPERVISOR: MR. S

DESCRIPTION

- *Do research and calculations on conserving energy.*
- *Survey buildings to see where money and labor can best be spent in trying to decrease heat loss.*
- *Type reports for proposals.*
- *Compare heat loss under present conditions as opposed to the amount lost after certain modifications are made.*
- *Present findings to the President and Building and Grounds Committee for implementation.*
- *Write articles in public consumption (for Talon).*

LEARNING OPPORTUNITIES

- *Both the supervisor and the workers share their knowledge and resources on projects. The students use computers to aid them in their calculations. Rooms in some buildings have been worked on by crew members for practical purposes. The students learn how to present material to others in trying to implement changes. They also apply physics and calculus to practical situations.*

LEADERSHIP OPPORTUNITIES

- *The student must be independent and willing to work alone when measuring rooms, doing calculations, or working reports.*

CREW SIZE

- *One member crew.*

PREREQUISITES

- *A knowledge of basic physics, calculus, and general figuring is helpful. Also needed is a student who enjoys writing articles for the school paper and the local paper on the crew's findings.*

FARM CREW

SUPERVISOR: MR. L

DESCRIPTION

- *The Warren Wilson Farm has 100 acres under cultivation, 200 acres in improved pasture, and 500 acres of timber land. There are 100 brood cows and 50 sows. General animal care would include administering medication, assisting during pregnancies, branding, dehorning, castrating, artificial breeding, record keeping, etc. General farm work includes:*
  - *Haying*
  - *Planting*
  - *Grinding Feed*
  - *Machine Maintenance*
  - *Painting (Barns and Fences)*
  - *Butchering Cattle and Pigs*
  - *Meat Cutting*
  - *Cutting timber and sawmilling*

LEARNING OPPORTUNITIES

- *Students learn about general farming, what it entails to run a farm, sharing knowledge, implementing ideas, growing and harvesting corn, cattle, and pig care. Cooperation in working together is a "must" in order to run the farm.*

LEADERSHIP OPPORTUNITIES

- *The more experienced student foremen help plan and train other students. One must be responsible, cooperative, and willing to work hard.*

CREW SIZE

- *32 (preferably half AM and half PM schedules).*

PIG CREW

- *This crew works only with the raising and caring of the pigs on the farm.*

LANGUAGE LEARNING CENTER

SUPERVISOR: MISS T.

DESCRIPTION

- *Tutoring in the self-instructed language program.*
- *French assistant and Spanish assistant.*
- *Operation of lab equipment.*
- *Change and prepare display case in Jensen Building (Miss C. is the supervisor).*
- *Clean the lab.*
- *Operation of the travel board office.*

LEARNING OPPORTUNITIES

- *A student has the opportunity to learn how to instruct others in the basics of his own language. A student can learn the ins and outs of foreign travel and get experience in a field which is usually handled by a professional.*

LEADERSHIP OPPORTUNITIES

- *The student is given a lot of responsibility and is expected to work independently.*

CREW SIZE

- *Varies according to the enrollment in the self-instructed language program.*
  - *French Assistant (1)*
  - *Spanish Assistant (1)*
  - *Travel Abroad Office (1)*

PREREQUISITES

- *The tutors must be native speakers of the languages they teach. The French and Spanish assistants should be fluent in the respective languages and also be willing to help Miss C and Miss T with homework correction, typing, translation, and tutoring. The travel abroad office coordinator should have much enthusiasm for foreign travel, secretarial skills, and an ability to work with other people and committees.*

experience-based

5

INTRODUCTION

PRESCOTT COLLEGE

In 1966 Prescott College began a significant experiment in higher education, breaking down barriers between academic disciplines, thought and action, and education of mind, body and spirit. After eight years of nationally recognized achievements, the College succumbed to financial difficulties. An announcement by the Board of Trustees on 18 December 1974 suspended operation of the campus.

The dynamics of the institution, as Prescott College, were centered around a fundamental concern with the relationship of people to the environment, whether that environment be personal, social, technological or natural. The aim of faculty and students was to discover and create environments that meet human needs and to understand and modify environments that do not. Learning activities at Prescott followed from this concern and emphasized experience in a variety of general areas: personal growth and self-expression, internship experience, community studies and cross-cultural experience, environmental field studies, and outdoor-action.

Although the College lost its accreditation and closed, half of the 445 students and the entire faculty remained to continue the type of education they felt could not be offered elsewhere. They created a community called the Prescott Center for Alternative Education.

THE PRESCOTT CENTER

The center employs two interdisciplinary models:

1. The Project/Problem Model: Programs which follow this model move the student systematically from basic, introductory work to field research problems. Every sequence is culminated by an intensive field project.
2. The Thematic Model: This model allows the student the flexibility to build an individualized program from among a selection of courses and field experience which focus around a unifying theme. Each of these experiences is led by a team of faculty members with different academic training.

The Center has organized its offerings into four major programs:

Environmental Studies is based on the Project/Problem Model, and is designed to help students experience the technological, philosophical and ethical implications of society's use of the resources nature affords. Natural sciences and humanities are combined in a series of preparatory

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SOURCE: PRESCOTT COLLEGE, PRESCOTT, ARIZONA
(Excerpted from the Prescott College Bulletin, the Prescott Center Bulletin and Learninghouse materials.)

classes, workshops and seminars.

Stages and Processes of Human Development is a Thematic Model exploring paths to human fulfillment. It deals with physical development, and with the social, political and artistic expressions of human life.

The Interpretation of Culture is also a Thematic Model program with some Problem/Project aspects. It is based upon the premise that one can function better in a rapidly changing world if she understands the behavioral processes which characterize it. Courses, seminars and field experiences among native advanced societies examine the basis of ideologies, economic focus, rural and urban life, utopian and traditional communities.

Outdoor Action is a supporting program which has three objectives: to provide experience and adventure in the wilderness, to provide training in professional wilderness leadership, and to use the wilderness experience as a medium for enhancement of learning in all curricular areas.

The general thrust of the educational program is set in the Spring term by a symposium through which students and faculty review the current year and design the following year. The Prescott Center is now in the process of applying for accreditation.

LEARNINGHOUSE

Learninghouse is a Southwest field training project operating under a FIPSE grant. Its founders have worked at Prescott College and the Prescott Center. With the attitudes developed at these institutions, a consulting group has been formed to offer a wide range of services in professional growth and education. Learninghouse has invited twenty people who work with post-secondary students in the Southwest to participate in a series of conferences in and about the wilderness.

Central to the activities of Learninghouse is a system for monitoring, developing, evaluating and documenting educational processes—The Learning Log. Following is a description of this Log. The description is intended for the user (student) and reader (teacher) of the Log, hence is written in the second person.

THE LEARNING LOG WORKBOOK

The Learning Log is a notebook which collects, orders, sorts and focuses learning. Through the Log we can record what we experience while learning. This record allows us to share learning with others.

The Learning Log is primarily an organizational tool. The exercises and discussions in the Learning Log Workbook can be used to help you learn more from your work. The exercises are for your benefit; they do not have to be done for anyone else. Use the ideas in the Workbook when they seem appropriate.

There are six sections in the Learning Log. Each section is designed to help you with different aspects of your learning. Use the sections which are most useful to your particular study project. The sections are:

Planning—getting ready and continually checking plans.
Listening—hearing what others think about your work.
Noting—keeping track of all the pieces of work.

Relating—putting the pieces together, digesting the experience and relating it to yourself.
Creating—saying it in another way.
Telling—summarizing the learning experience for others.

There are many ways the Log can be useful:

- *To help you plan your study.*
- *To help you make better use of your teacher and advisor.*
- *To help you keep track of your work.*
- *To help you relate your studies to other aspects of living.*
- *To help you develop your skills of awareness.*
- *To help you focus on your strengths and weaknesses.*
- *To help you use your creative abilities.*
- *To help you use your abilities and energies more effectively.*
- *To help others see the value of your experience.*

The Learning Log has as many definitions as the people who use it. Our use of the Log should grow and change as we become more familiar with it. Do not hesitate to modify habits or change recording and learning styles when using the log. The Log provides one with the opportunity to be creative about learning and the expression of learning.

PLANNING THOUGHTS

When we take time to plan, we are preparing to begin work. Planning helps one know what to do, when to do it and how to do it.

It might be helpful to think of planning as a three-step process.

1. Goals—general plans, descriptions of what it is you are heading toward.
2. Objectives—thinking specifically about the tasks or steps involved in achieving your goals.
3. Evaluating—checking through your activities to see which ones helped get you through the objectives to the goals, and seeing which approaches did not help.

Everything we do involves some aspect of planning. Yet we do not always take the time to make our plans obvious—to ourselves or to others. By being deliberate in our planning activities we can often make more out of the situation.

When you decide to plan, relax and be quiet. When you have relaxed, let an image come to your mind of what it is you want to achieve. When you are ready, write a description of it. This is a statement which is describing your *GOAL*. This description is often very general. It may be only one sentence in length or a whole paragraph. The goal statement itself is different from the goal. The statement is to help you find direction. A long statement may get in your way. Two or three sentences should be sufficient to write a goal.

A goal statement is similar to a topic sentence in a paragraph or a thesis statement in a paper. Your statement should be a general summary statement of the image. To write a goal statement, finish a sentence that starts: "I want ...."

Once you have written a goal statement which satisfies you, begin to write your *OBJECTIVES*. Read your goal statement over and regain that picture of the achieved goal in your mind. Now, walk backwards in time, through your mind, from your goal. What steps were necessary to attain this goal?

Each step becomes an objective. To be useful to you, your objectives should be stated specifically; they are statements which help you get things done. They help you know when you are getting closer to your goal as well as help you get there.

There may be several objectives for each goal statement. The list of objectives may also continue to grow as you work. To write an objective, use the following formula: "I will + (action verb) + (key things) + (time period). After you have written an objective, check to see if it satisfies the following questions:

1. Is it achievable?
2. Is it observable? Will I know for sure when I have completed the objective? Will others know for sure?
3. Is the objective relevant to the goal? Is it really necessary to do the objective, to get to the goal?
4. Is it challenging? Is it a big enough step?
5. Is it understandable? Will I remember what I meant six weeks from now? Will others understand what I intend to do?

It becomes necessary to periodically *EVALUATE* your planning steps and your work. Often evaluation is something others do to you. However, the root word of evaluate is value. Thus it is a process of putting value on things. "How is this activity of value to you as a person? What values do your goals have for you? What values does this activity have for helping you to achieve your goals?" These are the kinds of questions an evaluation process can help you answer.

There are numerous ways of approaching evaluation. Questions are one way of helping you give depth and breadth to your written evaluation. After you have written something, play devil's advocate and quiz yourself. Some of the questions you may want to ask yourself are:

- *Was it worth it?*
- *How would you do it, if you could do it again?*
- *Why did it happen that way?*
- *What was the most important part of it?*
- *How does it all feel right now?*
- *Who was the most important person involved?*
- *Did you learn something from it?*
- *Does it matter?*
- *What do you really want, anyway?*

LISTENING THOUGHTS

HOW TO WRITE A RESPONSE (FOR THE TEACHER) The way a teacher or advisor writes a response is as important as the content of the response. Keys to good form in responses are:

1. Refer to specific behaviors, activities, etc. Examples make things easier to understand than generalities.
2. Use terms to which the student can relate.
3. When calling for a change in behavior or work, provide a model for

the student.

4. Be empathic. As Kohl says, mix patience, good humor and kindness with uncompromising vigor.
5. Always be honest. Give accurate and reliable feedback.
6. Remember that feedback is not the "final word." The Log gives each student the power to be heard and it should be respected. Overly judgmental writing can destroy the trust and respect that both student and teacher need to make the Log a valuable experience.

The content of responses might serve many functions:

1. Provide a mirror so the student can see himself and his work more accurately. Often a person who is struggling with a problem cannot see the situation as clearly as one with more objective sight.
2. A responder can help the student to see his major strengths and weaknesses.
3. The student's work can be compared to some stated standard or criteria. With more discussion of external standards the student can learn to internalize them and be a better judge of his own work.
4. Perception can be addressed when a student discusses an event where both the responder and student were present. How another person sees the same situation can give the student a good reality check on his own objectivity.
5. Teachers can help the student see emerging patterns, either in his work or in his writing. Trends help the student focus on issues that may have strong importance to him.
6. When writing a response in the Log, it may be helpful to give the student feedback on his communication skills. Teachers may also discuss the content of the student's study. The responder may want to clarify or correct statements dealing with fact or theory, question the student's conclusions, or direct the student to new or better sources for his study.
7. The relationship between student and teacher will inevitably grow from interaction, but when the teacher/responder shares his own feelings in writing to the student, a special bond develops. The responder may ask himself: Have I ever felt this way? How did I deal with it?

HOW TO USE A RESPONSE (FOR THE STUDENT) In this section, you collect responses or notes others have written to you. After you have read through a response, you can treat it in several ways. You may want to do nothing about it, or you may want to:

1. Treat it as an information source, and turn to a "related" section and discuss the relationships suggested by the comments. Try some of the exercises listed in the "Relating" section—Dialogue, Monologue, Whole-Kernels Connections or Conflict-Sharpeners.
2. Write a note of appreciation to the person giving you the response. Send it or keep it with the response.
3. Using the response as a spark, write a better one to yourself.
4. Identify questions which were asked and answer them.

5. Write down the important activities or changes in your behavior that the responder is calling for.
6. Write down the questions that come to your mind as you read the response. Are they questions about yourself or are they questions addressed to the writer of the response? Try to get answers to these questions.

NOTING THOUGHTS

"Noting" is a place to collect things, pieces of work or ideas to remember. This is a place to jot down ideas that you want to develop later—in the "Relating" section. Noting is a place to keep things until they are needed. Different pieces which may be included here are:

- *Notes from class lectures*
- *Notes on readings from books, magazines, periodicals*
- *Handouts from the teacher*
- *Problem sets—completed or uncompleted*
- *Questions to study by*
- *Daily journal*

There are many types of notes—everyone has his own style. Whatever the form, it is often helpful to put a date and title on each note entry. Most of us are familiar with some form of class note-taking. When we take notes in class, we are usually thinking about the subject. A daily journal is another way of keeping notes. When we keep a journal of all of our day's activities, we can blend the class subjects with the rest of our experiences. Keeping a journal can improve our awareness of ourselves by helping us notice.

RELATING

The "Relating" section is for 'putting things together'. Since there are a myriad of "things" (ideas, theories, facts, experiments, experiences, descriptions of relationships), there are an almost unlimited number of combinations. You can compare two theories or experiences, or an experiment and a theory. To give you an idea of how to approach writing a "Relating" entry, three types of discussion will be outlined.

Wilda Holzman (Prescott, Arizona) describes an exercise called "Conflict Sharpeners." One takes a plain piece of paper and draws a line down the middle. He selects appropriate headings for the two sides (for example, Pro/Con, Approach/Avoid, Need/Want, Like/Dislike, Description/Interpretation). Then the subject is outlined under the two headings. Holzman suggests this method when you are undecided or unclear about something.

Ira Progoff uses the technique of dialogue. He suggests that a person, idea or experience be considered an entity, and that conversational script be written between you and this entity. You may write both sides of the discussion, or just a monologue to the subject. In either way, you are forming a personal relationship with the subject. The relationship grows and takes on more meaning as the depth of the dialogue develops.

A third exercise is called Wholes-Kernels-Connections. It is a three-step process. In the first step, Wholes, you describe what you are talking about. Rather than compare it to something else, describe it. In the second step, Kernels, take the Whole, and pull the Kernels out of it. What are the pieces, sections or parts that make up the whole? Outline the main points. Then, in the third step, Connections, describe your reactions or feelings about this subject. You may connect one of the Kernels with something else, or a Kernel with the Whole or two Kernels. There are numerous ways to connect ideas; use your imagination and see what you discover.

This section of the Learning Log may be difficult for many people because we are seldom called upon to articulate the values we place upon the subjects we study. However, it can also be one of the most valuable sections of the Log, so it should be used as often as possible.

CREATING THOUGHTS

In this section of the Learning Log, the emphasis is on expression. Among many others, you may want to try one of these media:

Drawing
Painting
Poetry
Stories
Photography
Song
Tape recordings
Theatre
Dance
Music
Movement
Dreams
Sports
Carpentry
Needlework
Glassblowing
Jewelry
Sand-castles
Running
Pen and Ink
Cooking
Map making
Letter writing
Calligraphy
Paper folding
Macrame
Mime
Counseling
Fantasy
Arguing
Horse Training
Gardening
Stitchery
Ceramics
Stained-glass
Sewing

What you do may not fit into the Learning Log, in which case you may want to take a photograph of it and put it in the notebook, or just write a description of it and keep the description in the Log.

Often, things we create can become symbols for us. Sometimes our dreams are full of valuable symbols. If you want to work on the symbolic meaning of any of your creations, turn to the "Relating" section and use the exercises there. Let your imagination work for you and let it be a valuable and normal part of your learning process—especially in this "Creating" section.

TELLING THOUGHTS

"Telling" is a collection of works or special narratives which explain to others what your learning experience has been. The "Telling" section should not be too long. Therefore, the number of items one chooses to include in this section should be limited and carefully selected.

By using a special Program Summary to supplement examples of your work, you can give the examples full meaning. The examples can become references rather than the text. A Program Summary should explain the entire learning experience, from start to finish. It should be brief and concise, and probably not longer than one page. You might think of the Program Summary as an abstract of the whole experience. There are many ways to summarize your work. Several basic elements, however, would probably be included:

- *Dates of the study.*
- *Components—Class, research, field study, work project, etc.*
- *General area of study—What it was about.*
- *Specific work completed—Books read, activities finished, papers written, etc.*
- *Main values—Important learnings, people, ideas, books, etc. Why and what is important to you—what did you learn?*
- *Evaluation of the project and your work—Was it set up to work or fail; how much did you try; did your efforts pay off; completeness of the project and your part in it.*

To guide you in thinking about your project, you may want to use some of the following questions. They may help you determine what you will include in this "Telling" section.

- *What is it in your study that you most want to share with others?*
- *What are the main points—kernels—of your learning experience?*
- *How did you accomplish your plans?*
- *Why was this a learning experience?*
- *Who was of particular value to you in this study?*
- *How did you use your own strengths in this work?*
- *What were your initial intentions and how did they change?*

INTERRELATIONSHIPS OF THE SECTIONS

The Learning Log is a complete system. Each of the sections work to enhance the others. If we delete one section, we lose the power of the whole Log. The sections not only convey different aspects of the work, they also balance each other off. There are many different ways that the sections can work together. If you notice that you usually use only one or two sections, deliberately use another section. Ask yourself how you can benefit from using the different sections of the Log. Remember that the Log is a complete system which is interrelated. Allow these relationships to develop. Be selfish and let the Log help you derive more from your learning experiences.

student-based

6

INTRODUCTION

New College is small in number, flexible in structure, and personal in approach. The New College is a fully accredited division of the University of Alabama, and its programs constitute excellent preparation for graduate school or other professional training. As an alternate approach to the traditional undergraduate educational experience, the College's two primary purposes are:

1. to create an opportunity for a highly individualized education which enables students to draw from the resources of all University classes and faculty, and
2. to serve as an experimental unit with the expectation of exporting successful innovations to other sectors of the University.

The New College program is designed to accommodate a wide variety of individuals who differ in ability, age, race, sex, professional and vocational interests. The most important admissions factor is that a student manifest a significant degree of motivation and intellectual independence.

After admission, students design their contracts with the assistance of others in regard to educational goals. Aiding the student in the design and fulfillment of the contract, the New College employs a comprehensive system of advising, concentrating on the total development of each individual. The advising committee consists of: (1) a student, (2) a New College advisor, (3) a maximum of two other persons—may include faculty, fellow students or persons from the outside community.

Through the Contract-Advising Committee, the student develops his own program and modifies it as interests develop or change. The Core Curriculum includes the following features: interdisciplinary seminars, a number of electives, a depth study program, and other experiences agreed upon by the Contract-Advising Committee. Students are strongly encouraged to include in their program an out-of-class learning experience, independent study and a plan of developing physical as well as mental skills.

Associated with the Contract-Advising process is an optional enrichment feature of New College curriculum which includes three areas:

A. "The Great Conversation" (the mind): Active engagement in prescribing, monitoring and effecting specific academic programs not

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SOURCE: NEW COLLEGE AT THE UNIVERSITY OF ALABAMA
(Excerpted in part from the 1975 Bulletin of the New College at the University of Alabama, with the permission of the institution.)

ordinarily encountered (selected readings, explorations of issues);

B. Recreation for Life (the body): student agrees to participate in some form of physical activity. This may be organized for credit through independent study;

C. Value Development (the spirit): student develops his/her own system of values through an upper-level interdisciplinary seminar.

In addition to the above options, the College offers Internships in local business, government or industry. Students can also develop programs in University administration and teaching.

THE NEW COLLEGE EVALUATION PROGRAM

One of the more marked departures of New College from traditional educational approaches involves program and student evaluation. Along with the New College commitment to innovative and individual education, comes a basic commitment to evaluate those efforts. The student is involved in the evaluation of his or her own performance and progress as well as all New College programs. This takes place not only through examinations and grading, but also through comments made by the students' instructors and with the help of the Contract Advising Committee.

Evaluation of student performance ranges from traditional course grading through the use of the pass/no credit system, advanced placement examinations for degree credit, proficiency examinations conducted by outside examiners through the College Level Examination Program, and the possibility of credit for demonstrated past learning experience.

To meet the commitment of educational evaluation of the New College and its students, there exists an Evaluation Task Force of students and faculty who have developed several measures to use in the on-going Program.

SEMINAR EVALUATION AND STUDENT DEVELOPMENT CHECKLIST

The seminars in the New College are evaluated on two levels: The Seminar-Faculty Evaluation, given at mid-semester and at the semester's end, gives information concerning the student's opinion of the seminar and the instructor, as well as an idea of the seminar's impact on the student. The Student's Personal Development Checklist, discussed individually with the instructor at the beginning and end of each seminar, gives the student an opportunity to evaluate his progress during the semester in such areas as knowledge gained, critical thinking, reading, speaking, motivation, attitude, etc.

TEST BATTERY

The New College test battery, taken when a student enters New College and then once each succeeding year by every New College student, uses nationally recognized tests as a meaningful profile of student values, attitudes, and concerns. The test results are summarized and analyzed collectively, providing worthwhile information concerning the yearly progress of New College students as a whole. Individual information is available through contract advisers.

FOLLOW-UP
A follow-up study of New College graduates is conducted in the form of a questionnaire, which gives information about the value of the New College program from the retrospective view of the graduate. A Pre-Graduate interview is conducted during the student's last semester, and a yearly Post-Graduate follow-up permits the perception of change in attitudes and values after the student has left the college environment. The Follow-Up also provides a basis for comparison of New College graduates to other educational programs in terms of success in job attainment, post-graduate studies, etc.

GROWTH CONTRACT
Perhaps the most unique evaluation program in the New College is the Growth Contract. The development of a growth contract for each individual faculty and staff member is a way to implement an underlying assumption of the New College—that faculty and staff members are in a co-learning relationship with students, so the faculty enters into an agreement to continue his or her own learning. The concept of growth implies change and the idea of a contract connotes a mutual obligation. A typical Growth Contract would include the following areas of development:

1. Specific goals and plans for action as related to the teaching-learning process. This may include experimentation with new techniques, use of new resources, development of evaluation approaches, etc.
2. Growth of a professional nature—readings, development of articles and materials for publication, attendance at various meetings, and completion of projects, are often considered in this category.
3. Particular obligations as related to the New College in terms of effective undergraduate teaching, advising, and other research and service activities.
4. Matters related to personal growth and development.
5. Any other kinds of growth concerns not mentioned here.

After formulating the contract, each faculty and staff member shares his or her contract with a colleague (often faculty and staff members choose to do this with the Dean); but the emphasis is not on a hierarchical reporting channel for the Growth Contract, but it is on a more horizontal or collegial basis.

GOVERNANCE
Much of the governance of New College is through a "Town Meeting" system. These mandatory gatherings occur at least once each semester, and the format is organized by interested students and faculty members for the governance of New College. The student body government is carried out by the Core Committee, composed of faculty, the New College officers, representatives from the seminars, and any students who wish to participate. The Core Committee represents the student body in administrative decisions and coordinates the activities of the Task Forces. Task Forces are loosely knit groups of students, faculty, and staff who work together on student orientation, admissions interviews, com-

munications, (for example, the development of this bulletin), public relations, evaluation, and social events. New College governance represents a unique opportunity for student involvement and input.

SUMMARY OF THE NEW COLLEGE GRADUATION GUIDELINES

The specific graduation requirements for each student in the New College are planned by the student and his/her Contract-Advising Committee, approved by the New College Dean and faculty, and recorded in the student's individual contract. This contract specifies the requirements to be met in the educational program for each individual student. By this means, the University is able to offer a maximum freedom to the student, while at the same time protecting its integrity as an institution of higher learning.

Each student develops a demanding and coherent plan for achieving his/her educational goals, based on an analysis of the student's interests, abilities, and previous educational experiences. Then the student, working with his/her Contract-Advising Committee, plans specific academic programs on a semester-by-semester basis. When the student is within one year of graduation, he/she will submit a plan for the final year of course work to the New College faculty and Dean. If the student has developed a non-traditional depth-study area, his/her program for the final year will be submitted for approval by the New College Review Committee. This committee has representatives from all colleges in the University including persons from the humanities, social sciences, and natural sciences. When the program for the student's final year of study is approved, it becomes the final contract between the University and the student and constitutes the official statement of graduation requirements for that particular student.

The following guidelines provide the context within which the student and his/her Contract-Advising Committee operates in designing a satisfactory program:

COMPLETION OF INTERDISCIPLINARY GENERAL EDUCATION SEMINARS

Includes completion of seminars (or substituted academic work) as agreed upon by the Contract-Advising Committee and as approved by the New College faculty and Dean.

COMPLETION OF A DEPTH-STUDY PROGRAM

The usual depth-study program will consist of from ten to twelve courses. Each student is expected to complete satisfactorily the courses designed for his/her particular depth-study program and agreed upon by the Contract-Advising Committee.

Each student in the New College selects a depth-study area on the basis of his/her interest, previous experience, and personal goals. The choice of a depth-study area as well as the specific courses and other requirements of the depth-study program are determined by the student and his/her Contract-Advising Committee.

In the event that there is a question about the student's qualifications for or the appropriateness of one or more educational experiences approved by the Contract-Advising Committee, a subcommittee of two faculty members and one student from the New College Review Committee will consult with the Dean of the New College, work out any differences (taking care to check with faculty members and the department chairman in the student's primary area of interest), and inform the student and his/her Contract-Advising Committee of any decisions made. In the event that a student wishes to put together a depth-study program which does not fall within a traditional academic discipline, members of the New College Review Committee will review the curriculum within one year of graduation and make suggestions for any possible revisions to the student, his Contract-Advising Committee, and the Dean of the New College for final approval.

Students may want to develop independent study courses suited to their depth-study areas (usually no more than one per semester, except with special approval by the Dean). It is recommended that such independent study courses, to apply toward completion of the depth-study program, be taken for a letter grade, so that the student will be protected regarding graduate school applications.

ELECTIVES

Usually a minimum of ten elective courses are taken in order to insure that students will take the opportunity to explore new and broader interests not developed in their depth-study and general education programs. Each student should select with the Contract-Advising Committee several elective courses which are directly relevant to his/her depth-study program and several others—not necessarily related to one another—which are especially interesting.

SATISFACTORY PERFORMANCE

Students must satisfactorily complete 128 semester hours of work outlined in the above-mentioned course areas and receive an over-all grade average of "C" or better to be eligible for graduation. (In order to prepare the student for graduate school admission, it is suggested that no more than 24 hours may be taken "pass/fail" without approval by the student's Contract-Advising Committee and the Dean of the New College.

OFF-CAMPUS LEARNING EXPERIENCE

It is strongly recommended, but not required, that every student plan a practical or supplementary off-campus learning experience for the equivalent of one semester during the time he/she is enrolled at the University (12 credit hours, maximum, unless otherwise approved by the Contract-Advising Committee). The successful completion of this off-campus learning experience will be evaluated by the person(s) chosen to supervise the student's off-campus work and related studies, considering the goals of the experience and what the student has learned from it compared with what he/she set out to learn as established in the guidelines for that particular off-campus learning experience.

Included here is a facsimile of a completed New College contract for out-of-class learning. The printed contract is used for a great number of out-of-class learning—independent study projects, and it should be emphasized that the example given is not the definitive model for all contracts. This "model contract" is provided to give an idea of how a contract is written in the New College.

NEW COLLEGE
CONTRACT FOR OUT-OF-CLASS LEARNING AND INDEPENDENT STUDY

(See the New College Out-of-Class Learning Guidelines for Information Regarding the Completion of This Contract)

Name Pat Jones Student No. 123456

A. This study/experience is primarily: (See Section III, item A of Guidelines)

- ✓ Cross Cultural (e.g., study abroad)
- ____ Sub Cultural and Community Service (e.g., working with minorities or the disadvantaged)
- ____ Formal Employment (e.g., a commercial enterprise)
- ____ Independent Study
- Internship in:
  - ____ Administration
  - ____ Teaching
  - ____ Business, Industry and Government
  - ____ ACTION
  - ____ Other (specify) ____

Your school or college is New College.

Your depth study is Urban and Regional Planning.

Title (or brief description of proposed study/experience) A Study of the Administration of British and Danish Regional and Urban Planning.

Attach job description form (available in the New College office) if done in conjunction with a work experience, i.e., Formal Employment (see Section IV, item D of Guidelines)

B. Beginning date January 13

Estimated Completion September 1

Your address (residence & mailing address) during the study/experience	Location & address of study/experience Supervisor
University of London	Box 6211
London, England (zip code)	University, Alabama 35486 (zip code)
Phone No. ____	Phone No. ____

C. Goals and Objectives: (See Section II, item C of The Guidelines)

Goal(s):

To attain an understanding of the similarities and differences between the philosophies and policies surrounding British, Danish and American administration of urban and regional planning. To gain an insight into the normative values affecting planning administration in the different societies.

Objectives: (Add additional pages if necessary)

The project objectives are threefold. One, to engage in extensive library research and reading of basic texts on planning written for British or European planners, and to develop a precise questionnaire for use in this phase. Two, to pursue an intensive program of on-site observations in England and Denmark and to get a personal feel for the programs being followed. Three, to collect, edit, and digest all the materials gathered during the eight months of the project and write a report for evaluation for my faculty advisor.

D. Methodology: (See Section III, item D of The Guidelines.) Explain the methods to be used in pursuing the above goals or objectives. (Add additional pages if necessary.)

This program will be divided into three phases. Phase I, from January to May, I plan to spend at least three hours a week in the library on the Tuscaloosa campus researching books and articles on European approaches to urban and regional planning. Phase II, from May to August, I shall be travelling in Europe with a group of geography students. I plan to be in England about two weeks and in Denmark for one week. During these periods I shall keep appointments with planning officials and I shall visit specific urban renewal sites and take photographs to illustrate my final report. During my interviews I shall use a questionnaire designed to produce a body of data .....both objective and subjective...... which will supply the material for the final report. Phase III of the project will be the writing of my final report which will include observations, impressions, interview data and illustrations (maps, charts, photographs, etc.) during the last two weeks of August. This material will be rewritten into a formal report.

E. Evaluation: (See Section III, item E of The Guidelines).

Dr. John Smith
(Name of person(s) principally responsible for the evaluation)

15 hours per week
(Approximate time—in hours per week if possible—the study experiences will require)

The final grade will be pass/fail_____; or letter grade ✓.

The probable final "product" will be (See Section III. item E, No. 5 of The Guidelines)

...a paper in the form of a report with conclusions.

9 credit hours is proposed for this experience. (See Section III, item E, No. 4 of The Guidelines).

Describe how the experience will be evaluated. (See Section III, item E, No. 6 of The Guidelines).

The evaluation will be based on an assessment of my research activities by the project directors. The evaluation will be based on my final report which will reflect the effectiveness of my data gathering and the quality of the reporting. Also there will be an oral review of my reading before I embark on the travel and a final oral review with the project director upon the completion of the project.

F. Resources: (See Section III, item F of The Guidelines). List bibliography, or other resources to be used, along with persons, places, etc. Add additional pages if necessary.

Preliminary bibliography: (a more complete one will be compiled during the project)

Donnison, David and David Eversley, LONDON: URBAN PATTERNS, PROBLEMS, & POLICIES, Heineman

Jackson, John N., THE URBAN FUTURE: A CHOICE BETWEEN ALTERNATIVES, London: Allen & Unwin

Mirlin, Pierre, NEW TOWNS: REGIONAL PLANNING AND DEVELOPMENT, Methuen.

GUIDELINES FOR OUT-OF-CLASS LEARNING AND INDEPENDENT STUDY IN THE NEW COLLEGE

INTRODUCTION

From its beginning the New College has maintained a strong commitment to providing student opportunities in out-of-class learning and independent study experiences.

There is much research that supports the concept of individualization in the learning process. This research shows that learning which has been individually initiated and individually implemented has many benefits including: greater retention of knowledge gained; a better ability to integrate this knowledge with other learning, and increased potential for extending this knowledge into new areas. Another important advantage is that information gained in these kinds of practical experiences is often very helpful in making career decisions.

The most important factor in making independent study and out-of-class learning effective is student initiative. The New College provides the opportunity for such initiative by encouraging student involvement in locating experiences that would be beneficial to them and then having the student play a major role in developing the methodology and content of the experience.

LOCATING THE EXPERIENCE

The New College maintains a file of out-of-class learning resources in which a student may find information regarding potential learning experiences. However, students are strongly encouraged to seek out potential learning experiences on their own. The Coordinator of Out-of-Class Learning in the New College will assist in locating an experience.

ORGANIZING THE EXPERIENCE—THE CONTRACT

A valuable tool in organizing the experience is the Contract for Out-of-Class Learning and Independent Study which may be obtained in the New College office. The major elements of the contract are described below.

A Description of the Experience. There are five general headings for Out-of-Class Learning and Independent Study in the New College. These are: cross-cultural experiences, (primarily study abroad); community service or sub-cultural experiences, (primarily working with minorities or disadvantaged); formal employment experiences, (working with a commercial enterprise while earning financial compensation); independent study, (working on or off campus with a faculty member on an independent study project); and internship experiences (specific experiences organized through the New College in the areas of administration, teaching, business, industry, and government).

A title or brief description of the proposed experience is required as a part of the contract.

Basic Information. The contract requires information about the duration and location of the experience. Independent study and out-of-class learning experiences do not have to coincide with the time frame of a semester—they may be longer, shorter, or otherwise overlap a semester's duration.

Information about the student's address and phone number(s) is especially important for experiences conducted away from the University.

Goal(s) and Objectives. There are two major questions to keep in mind while writing goal(s) and objectives: What is the general purpose of the experience? How is the experience to be evaluated?
be evaluated?

The goal(s) can be described in one or two sentences, and it should identify the overall purpose of the experience. It may well read like the "title or brief description" on page 1 of the contract.

The objectives relate to the specific accomplishments which are expected in the experience. It is most important to describe these objectives in detail and with clarity, in order to facilitate evaluation. Clearly stated objectives make it easier to arrive at an evaluation of the experience. The New College can provide a bibliography of material relating to this subject.

Methodology. The methodology should describe the mechanics of the experience, i.e., the activities that will be engaged in while pursuing the goal(s) and objectives. For example, one may be reading, keeping notes, and reporting periodically to a faculty mentor; or the experience may include work in the computer center, in a legal office, or library research. The activities should be described in as much detail as possible.

Evaluation. In planning the evaluation of the experience the following six items should be considered:

1. Identify the person(s) primarily responsible for the evaluation.
2. Record the approximate time the experience will require (in hours per week if possible).
3. Describe how the experience will be evaluated (e.g., by a final product, by periodic evaluations, by a project director, by final examination, etc.). The evaluation should ask two questions: (1) How well did the student accomplish the goal(s) and objectives of the experience? and (2) As a result of this experience, what new areas of academic interest have been opened?

   Is the grade to be recorded as pass-fail or letter grade? Students who are conducting an experience in their depth-study, who are in a certification program (public school education, pre-med, etc.) or who have used the pass-fail option in several other courses, are advised to use the letter grade option.

   When adjunct faculty are used (see Section IV, Item B), students are advised to use the pass-fail option.

4. The determination of the credit hours to be earned for an experience should be made by the student and by the person who will be primarily responsible for evaluating the experience. There is a general guideline in the New College that approximately ten to fifteen hours of work per week is necessary for receiving three semester hours credit.

   In determining credit hours, three factors should be kept in mind: (1) the duration of the experience, i.e., how long will the experience take?; (2) the depth of the experience, i.e., how advanced or how detailed will the experience be?; and (3) the quality of the experience. The latter cannot be fully determined until the experience is completed, but all of these factors should be kept in mind in making decisions about the amount of credit for the experience. The typical range of credit for out-of-class learning experiences is one to six hours credits for experiences done while enrolled in other courses and six to twelve hours for experiences done on a full-time basis during a particular semester.
5. The experience should produce some evidence of the work that has been done. This "product" may take the form of a formal paper, a work of art, a photographic essay, a computer program, a log or diary of the experience, an oral presentation, or any such evidence that relates to the experience. The product does not have to be the culminating factor or the total results of the experience, and it should be suitable for filing (if possible).
6. In evaluating the experience, the central question should be, "How well did the student attain the goal(s) and objectives?"

Resources. The resources should include a bibliography, but they may go beyond this to include other kinds of resources such as persons, places, files, and pertinent kinds of hardware or software that might be utilized in the experience.

Even though out-of-class learning and independent study experiences are primarily practical in nature, they should include a prominent theoretical element. Often this can be accomplished through related readings—hence, the emphasis on a bibliography. If a bibliography is not included, the reason for this omission should be given, including the substitute method of including the "prominent theoretical element" or an explanation of why this should not be a part of the experience.

Approvals. The approvals should be signed in sequence with the student giving the first approval to the project. The other approvals include the project director or the person who will be responsible for guiding and evaluating the experience, a signature from the faculty adviser, and finally the signatures of the Coordinator of Out-of-Class Learning and the Dean of the New College.

GENERAL GUIDELINES

The contract should be developed and approved in advance of the experience. There are certain occasions where a contract cannot be completed in advance, such as when final details must await a student's arrival at the site of the experience. In these cases, the student assumes a certain risk in that the experience, once begun, might not be approved; therefore, *this procedure is discouraged*.

Under some circumstances, experiences may be completed before a contract has been drawn up. This falls into the category of credit for previous learning experience; and while it is possible to earn credit through this manner, it is a more rigorous procedure than when an agreement has been reached in advance. In determining the awarding of credit for such experience, it has been the procedure in the New College to involve faculty expertise outside of the New College in helping to evaluate the experience, and this requires very specific evidence of what the experience entailed.

Students may arrange for experiences under the direction of persons outside of the University who do not have formal academic credentials, but who are highly qualified in a particular area. A procedure has been established in which certain qualified people may be appointed as adjunct faculty of the New College. In order to qualify as an adjunct faculty member, the individual must submit a brief vita or resume indicating his or her expertise in the designated area. Forms of this procedure are in the New College office.

Students who are not in the New College are welcome to participate in the out-of-class learning/independent study program through the New College. It is recommended that these students have an appropriate faculty member in their academic division sign the contract in the space designated for the faculty adviser. These students are advised to inquire from their division the limits of credit that may be earned outside their division.

Students may earn financial compensation as a part of their experience. In these cases, it should be clearly understood by the student and his or her employer that the primary reason for the experience is academic and not financial. Special forms accompany contracts which fall into the "formal employment" category, and these may be obtained in the New College office.

Faculty (including adjunct faculty) who have supervised one project during an academic year will be compensated $35 per project for each subsequent project during that academic year.

Any out-of-class learning or independent study experience should relate to some facet of a student's regular academic program. Proposals for out-of-class learning or independent study experiences which fall into a strict vocational-technical category (for example automobile repair, dress making, etc.) that do not have a theoretical or academic basis will not be accepted.

The completion of the contract is the responsibility of the student who is seeking the experience. The student should remember that the faculty and others who may help to develop and to implement the experience should not be burdened with the mechanics of filling out the contract.

Students who have not satisfactorily completed a previous independent study or out-of-class learning experience will not be able to initiate other experiences.

THE EXTERNAL DEGREE PROGRAM

The External Degree Program, for adults whose educational needs cannot be met through traditional university programs, invests the major responsibility for learning with the student. Demonstrated prior learning, previous academic credits transferred from an accredited college, passing of national tests such as the College Level Examination Program (CLEP), independent study, out-of-class learning, correspondence study, weekend or evening seminars, educational television courses, and, when feasible, classroom work can be applied toward attainment of a degree. Individual guidance is provided for each student in determining educational goals, bringing together learning experiences, and formulating a total degree program.

Degrees offered: Bachelor of Arts and Bachelor of Science

Humanities	12 semester hours
Social Sciences	6 semester hours
Natural Sciences	6 semester hours
Depth Study	32 semester hours
Electives	32 semester hours
Final Project	12 semester hours

The remaining 28 hours will be divided among elements of the curriculum needed to strengthen the student's program.

The students must complete satisfactorily, i.e. with a "C" average, a minimum of 128 semester hours of work outlined in the above-mentioned course areas. Each student's curriculum must meet the final approval of the Director of the External Degree Program and the Dean of the New College.

The External Degree Program is intended to serve older, nontraditional clientele whose opportunities to utilize currently available educational resources may be limited. Students will be admitted to the Program by the following criteria:

1. Those whose educational goals may more readily be facilitated by the program.
2. Adult learners.
3. Those who have a minimum of a high school degree or the equivalent.

Students in the program become engaged in a variety of learning projects, such as courses in Independent Studies, courses by television, regular courses at The University of Alabama and other accredited institutions, and correspondence courses from this and other institutions.

After completing nine hours in the program, the expert judgment model can be used to validate demonstrated prior learning. *Learning* (not experience alone) acquired through such activities as work and experience, after having been reviewed by experts in the field, may be validated for academic credit. Also, the College Level Examination Program (CLEP) has proven helpful to many, and experiences in the military have been credited according to the guidelines of the *Guide of the Evaluation of Educational Experiences in the Armed Services*.

The following admissions procedure is used for the External Degree:

Step 1. Secure an application from the New College, External Degree Program, Drawer CD, University, Alabama 35486, and request that all official transcripts from any accredited post-secondary institutions be forwarded to this same address.

Step 2. As vacancies occur in the program, invitations are issued to attend an orientation program designed to acquaint prospective students with the program, i.e., information about contract learning, program costs, and other relevant information including formal admission to the program. Before attending an orientation, an applicant must have all transcripts on file in the External Degree Program Office.

Step 3. Formal admission to the program takes place at the end of the orientation if the student feels that educational goals can be reached through this program.

Prior to receiving an invitation for an orientation weekend, students are encouraged to continue their education by the use of CLEP tests, formal classes at The University of Alabama or elsewhere, TV courses, and correspondence study such as Independent Study offered through the Continuing Education Center. This work will be considered as part of the External Degree Program when the student is formally admitted. Up to 64 semester hours may be transferred from a junior college.

values-based

7

INTRODUCTION

St. Olaf College is a coeducational liberal arts college in Northfield, Minnesota. It was founded in 1874 by Norwegian-American Lutherans in order to provide a program of liberal studies to students preparing for careers in business, politics, the clergy, and other professions. Today the student body numbers 2,900, about sixty percent Lutheran, and seventy percent from Minnesota, Wisconsin, and Illinois. The College has a 4-1-4 calendar, an experimental Paracollege, an extensive program of international studies, an excellent faculty, and a world-famous choir. It has just completed an extensive self-evaluation, the recommendations of which it is beginning to implement.

GOALS OF THE VALUES PROGRAM

The educational goals of St. Olaf College have from its beginnings included the development of the intellect and, as it is characteristically expressed, the emotions and will in the context of Christian principles and the liberal arts. We propose a values-centered education as a contemporary affirmation of those objectives. Such an education will provide a special challenge to the student to understand through serious scholarly inquiry and to think critically and analytically about the value-laden issues that confront him/her—but also, inevitably and as part of the same process, to face and to decide upon his/her own position.

We aspire to an education that will inform the many crucial decisions that individuals and groups must make in today's world of interdependence and technological change. Too often these decisions are made by default while "good men do nothing." Scholarly activity, no matter how rigorous, is by itself insufficient, while commitment without comprehension can be disastrous. The complexity of the problems facing us collectively and individually call for the best that liberal education has to offer. Consequently, we seek to create educational environments that will demand both serious academic preparation and personal engagement. The courses, symposia, workshops, and other features are designed to move toward this larger objective in five ways which constitute our specific goals. We seek to develop:

1. an awareness of values
2. a capacity for the clarification and analysis of values
3. an understanding of the scope and limits of human choice.

SOURCE: ST. OLAF COLLEGE, NORTHFIELD, MINNESOTA
(Excerpted from a program proposal prepared by the staff at St. Olaf College, with the permission of the institution.)

4. skill in defining issues in the context of crucial contemporary problems
5. an enhanced scope for self-conscious and responsible decision-making.

We expect our students to gain a heightened awareness of and sensitivity to many value-defining points of view, such as aesthetic, moral, political, intellectual, educational, and social. We expect a student to become aware of his/her values in terms of their sources, implications,and changes. We believe that one way to accomplish this is through exposure to the values of other individuals, cultures, and traditions. We also expect our students to become more aware of the values which underlie the methodologies and applications of the liberal arts disciplines. We believe, however, that our students should go beyond simply becoming aware of the values within a particular issue or approach. We expect our students to ably define, clarify, and analyze values and value judgments. Rather than ending discussions by stating that the debate has reached the point where individuals are simply making conflicting value judgments, the student studying values will consider this supposed impasse to be the beginning point for clarifying and analyzing these conflicts. The clarification and analysis of values and value judgments requires a grounding in empirical topics such as value acquisition and change, the limits of human choice, and the relationship between behavior and values. It also requires a grounding in normative and conceptual issues such as the nature of values and value judgments, the justifiability of value claims, value relativity, and tolerance in a value-pluralistic society. Increased awareness of values and the ability to analyze values critically culminate in the examination of the value-laden issues such as the nature of art, the relationship of law to morality, directions for technological development, the conservation of energy, equality of opportunity, and the future of the family. Here also scholarly pursuits and personal commitment combine. We will expect each student to relate his/her analysis of such issues to his/her own convictions about acceptable answers. Intellect and emotion will combine with will as the student takes responsibility for both the decision-making process and the decision.

SUMMARY OF THE VALUES PROGRAM

We propose that four new values courses be inaugurated and then that St. Olaf adopt them into the permanent curriculum of the college. We propose that faculty teaching throughout the curriculum revise some of their departmental courses so as to raise crucial value-laden issues more effectively. The concerns of the humanities will thus be raised not only within humanities departments, but in all departments and divisions of the college.

MAJOR ELEMENTS OF THE PROGRAM

INTERDISCIPLINARY VALUES COURSES

ID 32 Introduction to Values (already adopted)
ID 34 Values and Behavior

ID 36 Ways of Knowing
ID 38 Crucial Issues

THE VALUES-FOCUSED INTERIM

A plan whereby from ten to twenty courses in each January term will address themselves to a common value-laden topic, supplemented by convocations and a concluding symposium with guest lecturers. The 1975 topic was Native American Values. Proposed future topics are: Growth vs. Non-Growth; Aging and Death; Technology and Values; Human Habitations—Space and Living.

THE SUMMER FACULTY WORKSHOPS

Six-week workshops for St. Olaf faculty, to enable them to teach about values more explicitly and competently in their regular courses or in interdisciplinary or Interim values courses.

THE SOPHOMORE VALUES HOUSES

A program in which 20 sophomores, living in two off-campus houses, will enroll together in ID 32 and in a year-long seminar on Values and Community. Under the guidance of a faculty member and a head resident, they will develop their abilities with groups, in preparation for being junior counselors in the dormitories and for other group leadership situations.

THE STUDENT PROJECT FUND

For student groups who initiate project ideas for value-related endeavors.

THE SPRING RETREAT

Retreats involving students, faculty, administrators, regents, alumni, and parents, to discuss specific value-laden issues facing the campus or nation.

LIBRARY ACQUISITIONS

To strengthen our holdings in works related to the study of values.

future-based

8

INTRODUCTION

We face a profound paradox in our collective future. On the one hand, we are capable of action that can change our institutions and environment. We are also aware of the alternate futures which we face as a result of these actions. Yet, in spite of this control and insight, we seem to be continually trapping and surprising ourselves through the actions we take. We create physical and social environments in which we do not wish to live. We attribute to other people or to dehumanized corporations the responsibility for these environments, yet we continue to take actions, individually and collectively, that sustain these environments and that lead us toward a very disturbing future: profound ecological collapse, increasingly accelerated rates of unplanned change, and new forms of alienation, despair and social instability.

The images of the future which each of us now holds are in most instances quite bleak. While we tend to envision our personal futures as being much like they are today, we imagine a collective future that is not very pleasant. These images, furthermore, are not originated by charismatic prophets or alienated visionaries, as in the past, but by respected members of our society: scientists, engineers, social philosophers and business leaders. For example, in a masterful work entitled *The Image of the Future*, Fred Polak states that "for the first time in the three thousand years of western civilization there has been a massive loss of capacity, or even will, for renewal of images of the future." Polak finds few signs of a constructive image of the future emerging from our contemporary society. Furthermore, he believes that "the rise and fall of images of the future precedes or accompanies the rise and fall of cultures."

Certainly the images of an "ecological crisis" or of "future shock" provide, in and of themselves, very few guidelines concerning future directions for our society. Some of the alternate images which have been created tend to be unrealistically optimistic. They rely on unplanned "technological fixes" or serendipitous technological breakthroughs to solve complex physical and social problems. Other images are unnecessarily pessimistic and in most instances passive, such as the "drop out" mentality of the late 1960's and early 1970's. The elitist "consciousness III" vision of Charles Reich would also in most respects fit this latter description.

Our collective images of the future, then, are either unacceptable or unrealistic. What can we in higher education do to meet this crisis? I

SOURCE: WILLIAM H. BERGQUIST, "RESPONDING TO THE FUTURE THROUGH CURRICULAR REFORM," *LIBERAL EDUCATION*, 62 (1976), 229-244
(Excerpted with the permission of the publishers.)

believe we can do at least three things. First, members of the higher education community can help create and sustain viable images of the future, using all of the intellectual resources available for this task. Second, we can prepare both young people and adults to bring about the necessary transformations in our current society that will bring reality to these images. Third, we can prepare all members of our society, particularly the young, to sustain these images once they are brought to reality. These challenges necessarily involve all aspects of the collegiate institution, for in the midst of preparing our society for the necessary changes to an alternate future, higher educational institutions must themselves participate in the transformations. A steady-state economy, for instance, is not only an appropriate topic for a new curriculum, it is also a condition to which the modern college or university must adjust as a particularly vulnerable member of the economic sector of our society.

At the center of American higher education's response to the future, must be the collegiate curriculum. While modes of instruction, campus governance, budgetary controls and administrative style must change to reflect a specific image of the future, these changes will necessarily come more slowly, and must be compatible with, a comprehensive curricular change. The curriculum must clearly, consistently and immediately reflect the primary educational goals of the institution. Other domains of the college or university should, ideally, follow suit.

MODEL OF A FUTURISTIC CURRICULUM

What then would an effective curricular reform look like if it were to be responsive to some images of the future? First of all, such a curriculum cannot itself solve the problems of the future. A social-action curriculum may be appropriate for a college which is serving the immediate needs of its community. An institution that wishes to be future-responsive, however, can only provide training in the skills that will be needed by a student who will live in a particular future. The students themselves must solve the problem. A new "education for future citizenship" should be based on an explicit statement of what type of future society people will live and work in, and what type of future roles they will occupy in this society.

A second characteristic of the future-responsive curriculum is closely related to the first. The curriculum must be comprehensive with respect to a specific image of the future. It should be neither too specialized, e.g., focusing on the economics of the future, nor too diffuse, e.g., embracing a wide variety of different futuristic images. If the curriculum is too specialized, then it tends to become isolated from other aspects of the curriculum which are not future-responsive. In preparing for the future, even more then in solving immediate problems or reflecting on the past, a multi-disciplinary perspective is needed, for the problems of the future will certainly escape traditional disciplinary bounds. Conversely, too broad a curricular scope will produce a superficial program which does not prepare students to live in or create any alternate future. Too many of the so-called "futuristic study" programs are, on the one hand, highly specialized and isolated, creating a new discipline rather than reintegrating old disciplines. These programs are also often too generalized and unfocused, ranging across many different images of the future.

Thirdly, a future-responsive curriculum, like all curricular reforms, must be based on a sound rationale that integrates the specific image of the future that the institution wishes to embrace, the unique and specific mission and goals of the institution, and the educational needs of the clientele being served by the institution (students, parents, community, trustees, etc.). Furthermore, the curricular design must clearly and consistently reflect the rationale that has been established. The reform must be derived from and disseminated through campus governance mechanisms that adequately incorporate input from all constituents that will be effected by the reform. Finally, the reform must be accompanied by appropriate development in other related areas of the institution (e.g., faculty and administrative development, institutional research and planning initiatives, and new systems for budgetary management).

In a recent study of curricular programs at many colleges and universities in the United States, I have found very few that could be called "future-responsive," given these characteristics, though a number of isolated, future-oriented courses can be found. Typically, only one or two faculty are involved, and their efforts tend to be sporadic and short term. There is usually very little institutional commitment to the efforts of these individuals, and hence the professor and students usually cannot sustain, let alone expand, the program.

Given that there are few, if any, adequate examples of future-responsive curricula in American higher education, we must begin virtually from scratch in determining what such a curriculum might look like and how it might be designed and implemented. Such a program would probably initially involve one or two years of work by a curricular planning group or interdisciplinary study team that would attempt to identify or create its own unique image of the future. The planning group would build a series of scenarios for a specific target time in the future (e.g., the year 2000) and for several dates leading up to this target date. It would then determine the implications of these scenarios for the curriculum of the institution.

The initial selection or creation of an appropriate image of the future is probably the most difficult and controversial step the planning group must take. The group might choose, as have most future studies groups, to embrace a variety of futures. However, as has already been mentioned, this approach tends to water down the impact of the program. The planning group might instead take the risk of concentrating its attentions on a specific image of the future, then build a curriculum around this image. I believe that our recent experiences concerning the vitality of American collegiate institutions indicates that a college or university which embraces a distinctive program is not necessarily at a disadvantage, especially if this program is clearly articulated and made accessible to an appropriate student market. A college or university which embraces a distinctive image of the future and builds a comprehensive curriculum around this image may not only find new vitality in its educational program, but also increase its attractiveness to potential student populations.

How then might a distinctive image of the future be selected or created? The first step is to surface the group's assumptions about the future. Fred Polak highlights two which are critical: (1) *optimism* versus *pessimism*, and (2) *passive* (man and institution cannot be changed) versus *active* (man and institution can be changed). These two features interact to provide a fourfold classification of futuristic images (see Table One).

A passive and pessimistic image of the future (model one) has usually been associated in the past with an image of a man as sinner, while a passive optimistic image (model two) has been associated with a savior who will provide a redemption of which man himself is not capable. Active-pessimism (model three), according to Polak, tends to lead toward stoicism, while active optimism (model four) produces utopian thought. As we look toward our own assumptions about the future, we probably discover similar themes of sin, redemption, stoicism and Utopia couched in new terms. In place of man as sinner, we might find man as the antipathy to ecological and social-emotional stability. The image of a society in ecological shock is clearly a modern-day equivalent to the day of judgment. Similarly, we can replace the image of a savior with that of a "technological fix." We can image a society that comes to rely increasingly on the unplanned and seemingly inevitable emergence of a technological innovation that will solve complex environmental and social problems. The stoicism of an active-pessimistic perspective is supplanted by the inner-directedness now associated with the meditational and personal growth movements. Active-optimism traditionally associated with the utopian thought, is probably least active at the present time, but is potentially the firmest basis for a future-responsive curricular reform.

A curricular planning group which operates under a pessimistic assumption that man and his institutions are essentially unchangeable, will probably construct a curriculum that is essentially adaptive in nature. The institution, in other words, will prepare the student to cope with an anticipated future. Conversely, a committee that optimistically assumes that man can influence the direction which he and his institution will take, is inclined to produce a curriculum that is essentially creative in nature. This college or university will prepare the student to construct a desirable future, rather than adapt to an anticipated future. The dimensions of optimism and pessimism are clearly critical. A curriculum that is based on excessive pessimism, as are many environmental curricula, may produce low student and faculty morale, whereas a curriculum that is based on excessive optimism, as is the case in some evangelical colleges, faces the problem of Polyannish indifference on the part of students and faculty.

After testing several of its assumptions about the future, such as those just described, a group that is planning a future-responsive curriculum should examine several current images of the future. One such image is provided by Daniel Bell, who describes a "post-industrial" society of the future. This image is essentially an extrapolation on current trends. The world of the year 2000, according to Bell, would probably be heavily reliant on what Kahn and Briggs call a "quenary economy." It would be an economy that is based on "services to services, or services for their own sake, such as recreation activities, the arts, etc." Kahn and Briggs, extrapolating on the current phenomena of bureaucracies existing for their own sake, predicting that these features will pervade the economic system of the future. A variation on this image is the "post-manufacturing" or "post-economic" society that is described by Kahn and Briggs. In such a society, secondary industry—manufacturing and its direct services—would go the way of such primary industries as farming, fisheries and mining. People would tend to work less as standards of living increase beyond a certain point, which would lead to the emergence of a new "leisure society" or a new "learning society" in which activities other than work would be valued for their own sake and would consume a large part of the citizen's average day. This image of the future is obviously quite optimistic, in terms of our current ecological and economic problems. It also tends to be rather passive, relying on technological advances to support the highly energy-intensive society of leisure and learning that is envisioned.

An alternative image of the future that is also optimistic, but more active with reference to the role of man and his institutions, is the "equilibrium" model which is now being advocated by many environmentalists and advocates of controlled growth. The image of the future centers on the assumption that further increases in either population or the consumption of renewable and non-renewable physical resources must be halted. We must establish a society in which population and resource consumption are in equilibrium thereby crediting a sustainable global ecology. Under such conditions, the consumption of energy per capita, in high consumption countries, would be reduced. All non-renewable resources, such as petroleum and coal, would be used at a declining rate and eventually at a minimal rate. Renewable resources, such as solar energy and tidal energy, would be used at a replenishment rate. Current rates of pollution would be reduced and maintained at a minimal level that would reflect the carrying capacity of the environment. Perhaps of greatest importance, the rate of both human birth and death would be reduced in an equilibrium society. Similarly, the production, deterioration and obsolescence of material resources would be minimized. Industrial firms would maximize the durability of their products and minimize the capital/output ratio. Financial incentives would be directed toward increases in efficiency, quality and durability rather than quantity of production.

Given these basic assumptions about the physical aspects of a society in equilibrium, profound transformations in the social system of western civilizations would be required. In this sense, the equilibrium model is clearly less realistic than the "post-industrial" model of Bell and Kahn, for the latter model requires no significant changes in either the values or desired life styles of the majority of citizens in our current society. Conversely, if the ecological crises that are predicted by the advocates of an equilibrium image come true, then the post-industrial model becomes profoundly unrealistic, leaving us with one of two options: begin the difficult transformation to an equilibrium society, or face world-wide starvation, energy shortage, economic collapse and inevitable global war.

What kind of social transformations might an equilibrium society imply? First, limits to growth in the economic and demographic sectors need not imply limits to growth in other sectors, e.g., the arts, humanities and crafts. Our society also would turn its primary attention from the discovery of new sources of nonrenewable resources to the discovery and development of renewable resources. Energy conservation would be encouraged through various financial incentives, as would reduction in pollution. Depreciation, for instance, would become subject to tax penalties rather than tax incentives, as is now the case. The autonomous "legally-personified" corporation would probably cease to exist. Small free enterprise institutions would be encouraged. Land would not be "owned" in the traditional sense. Rather, an individual or organization would assume "stewardship" for the land as well as for water and air. Most agricultural, industrial and distribution systems would become more labor-intensive and less energy-intensive. Increased use would be made of reserve systems in order to stabilize the supply of various goods, thereby also stabilizing price, distribution, and ultimately, demand.

In an equilibrium society, absolute growth would not be allowed if such growth resulted in significantly increased use of material resources. Consequently, a greater premium would be placed on the evaluation of existing institutions and programs, for in many instances a new institution would only start and expand at the expense of another institution. No-growth conditions would demand new levels of cooperation among members of our society and increased skills in the creative management of interpersonal and organizational conflict.

As in the "post-industrial" model, leisure would occupy more time in an equilibrium society than it does now, for less effort would be placed on industrial production. The distinction for many people between work and leisure would break down, for crafts and the arts would become increasingly valued as low energy-intensive activities. As in the case of the Bell and Kahn model, education would take on new significance in an equilibrium society, for it consumes relatively few material resources. The educational institutions would, however, become increasingly oriented toward the adult learner, as birth and death rates decrease. Education would also be critical to the maintenance of a value-system that is compatible with the conservation of material resources.

While this brief description of an equilibrium society in the future only barely touches on complex economic and demographic variables, it will give you a sense, as does the Bell and Kahn scenario, of what an image of the future might look like. The primary task of the planning group is to generate such an image, using currently available images as well as newly formed images emerging from the group members' own under-

TABLE ONE
ALTERNATIVE MODELS OF THE FUTURE*

PASSIVE	ACTIVE	
MODEL ONE • Man as sinner • Ecological/Future Shock	*MODEL THREE* • Stoicism • Inner-Directedness	PESSIMISTIC
MODEL TWO • Savior of Man • Technological Fix	*MODEL FOUR* • Utopias • Future-Responsive Reform	OPTIMISTIC

*Based on conceptual structure proposed by Fred Polak, *The Image of the Future*.

standing of the future. The second task for the planning group is to construct a scenario of the future, using a specific year, e.g., 2000, as a target date. This scenario might describe the entire world, or might be more focused, describing the United States, a specific geographic region of the United States, or a specific cultural or religious group. It is essential that the scenario be appropriate and relevant to the specific type of student now entering the institution. The more heterogeneous the student body the broader-based should be the scenario. If many of the entering students are adults, then the target year of the scenario should be set closer to the present time, e.g., 1985.

Ideally, the scenario will consist of two parts. One part will reflect a probable future, that is, a future to which the student must adapt. The other part should reflect a desired future—a future which the current student can help create. Included in both parts of the scenario should be some indication of the types of institutions that will or should exist in the target year, as well as some indication of the roles that people will play in these institutions, and, most importantly, the type of skills, attitudes and knowledge that will be needed.

With the completion of a detailed scenario that reflects and hopefully interrelates both probable and desirable futures, the planning group should begin to construct a series of briefer scenarios that will lead from the target year back to the current year. Usually two or three of these intermediate scenarios will suffice. Their primary function is to describe the elements that will or must intervene between the present and target years in order for the probable and/or desirable future to take place. These intermediate scenarios should focus on institutions, roles, skills, attitudes and knowledge, as did the target scenario. They should incorporate skills that will be needed to bring about the transformations from our current society to the preferred society of the target year. These transformational skills may differ considerably from the skills which we currently find and value. In many instances, the very absence of these transformational skills in our current society is the primary source of our pessimism concerning the future. The specification of these transformational skills is therefore critical in the intermediate scenarios.

The intermediate and target year scenarios should also identify those skills, roles and institutions that will primarily serve the function of maintaining current patterns, practices, and values. These functions will be of increasing importance in the future. We are already witnessing the devastating impact of instability and unplanned or excessive change on many institutions in our society. The role of stabilizing agents in our future may be as critical as that of change agents—and will demand different kinds of skills.

The final task of the planning group will be to create a curriculum that is responsive to the target and intermediate scenarios. If these scenarios have been specific, then the curricular recommendations should emerge quite easily and logically from the scenarios. The new curriculum should reflect both the probable and desirable futures. It should also reflect the skills needed at intermediate years as well as at the target year. It is also a curriculum that should incorporate both transformational and maintenance skills.

At this point, the curricular reform process must begin to involve other members of the campus community. Hopefully, the planning group represents a variety of disciplines, constituencies and perspectives on the future; nevertheless, a much larger number of individuals—ultimately, the entire campus community—must be brought into the process of constructing a future-responsive curriculum. Attention must be directed at this point to the effective communication of both the curricular recommendations, and the underlying rationale and processes that led to the production of these recommendations.

Considerable resistance to any curricular reform can be expected from those faculty who wish to preserve the existing curriculum, and, conversely, from those faculty who advocate alternate curricular models. Another source of resistance, which is more specific to future-responsive curricular reform, centers on the scenarios that have been created. This latter type of resistance may be very difficult to counteract, for it will tend to be diffuse, based as it usually is on an ill-defined image of the future. One of the important activities during this stage of the reform process will be to encourage other members of the college or university to clarify and explicate their own personal images of the future, and to determine how these images relate to the image that was created by the planning group. As a result of this process of surfacing alternative images, the planning group may modify or expand on its own image.

A final, significant source of resistance concerns the accuracy or desirability of the image that has been projected by the planning group. Some critics will justifiably express reservations about preparing students for adaptation to a future that will probably never exist, given our inability to accurately predict the future. Other critics will justifiably express concern about the values that are implicit in any image of the future: should we prepare students to create a future which is inconsistent with prevalent social values and needs? Should we prepare students to create a future which can never be achieved or which would be highly impractical if achieved?

These same questions, however, can be asked of any curriculum that purports to prepare students for a future life in society. All curricular models are value-laden and saturated with untested assumptions and implicit paradigms. We must ask ourselves, instead, whether or not a curriculum which never grapples with the issue of probable or desirable futures will be more successful in preparing a student for the future than will a future-responsive curriculum. Is not a thoughtful, though admittedly fallible, attempt to address various issues of the future more responsible than either a neglect of the future or a thoughtless assumption that the ingredients for coping with the future are somehow to be found in a classical liberal arts education? Alternatively, is not an image of the future which projects chaos and unpredictability just as amenable to planning as one which projects order and predictability? Such an image should lead one not to dismiss a study of the future as impossible or frivolous, but rather to develop plans for the future that account for a variety of unexpected events and interactions.

The primary function of a proposed curricular reform should be to facilitate dialogue. The resistance of faculty, administrators and even students to a proposed reform should be viewed not as a cause for despair, but rather as a leverage point or source of motivation for an essential discussion concerning alternate curricular assumptions and images of the future. The very act of discussing these alternatives leads the college or university toward a more future-responsive perspective on the existing curriculum, if not toward a new curriculum.

The college or university at this point must deal systematically with the full implications of the proposed curricular reform. Faculty will be confronted with the prospect of teaching new courses or of teaching old courses in new ways. Administrators must exhibit flexibility and understanding in dealing with changing schedules and costing patterns, and new conditions for student recruitment, public relations and fund-raising.

A new future-responsive curriculum should be implemented in stepwise fashion—as should any curricular reform. First, a series of one to two-week intensive courses should be conducted, usually during an inter-term period. These courses should be cooperatively planned by several faculty, with assistance from other faculty or external consultants with specific expertise in course content, design or methodology. The short courses should be followed by a brief workshop, during which faculty, students and administrators critique and replan the courses. Hopefully, the participating faculty will visit each other's courses, so that direct feedback can be provided during the post-course discussions.

Following the initial short courses, the college or university should offer five or more basic courses in the new curriculum. After several years of experience with these courses, the institution is probably ready to move toward full implementation of the new curriculum, recognizing the need for personal, professional and organizational development initiatives that accompany and support the curricular reform. These supporting efforts will hopefully not only enable the curricular reform to be more effectively implemented, but will also provide the context within which the entire institution can become more fully responsive to the future.

APPENDIX B

descriptions of innovative college curricula*

*These curricula models are representative of the more significant trends in the redesign of small college curricula. The descriptions and quoted materials were gathered from questionnaires, catalogues and bulletins obtained from the institutions. These brief descriptions cannot begin to touch upon the many facets of the designs. It is best that you contact the college for comprehensive and current information.

1

alice lloyd college

PIPPA PASSES, KENTUCKY 41844

Alice Lloyd College is located 140 miles east of Lexington, Kentucky. It is a two-year institution offering Associate degrees in arts, sciences, mental health, and executive secretarial training or office management. Situated in the heart of Appalachia, "the college operates within an Appalachian context, changing to meet the needs of students and local, regional and national communities they must serve." Approximately 85 percent of the alumni who go on to senior colleges and universities return to Appalachia to live and to work.

In addition to a full liberal arts curriculum, Alice Lloyd offers an expansive program in Appalachian studies. The Appalachian Learning Laboratory (The ALL concept) was initially aided by a three-year development grant from the Education Division of the National Endowment for the Humanities. This program provides a resource center for Appalachian life and culture through special activities, field work and class work. The program emphasizes field work experience for students; they examine and study the dynamics of life in Appalachia (politics, religion, economics, education and ecology).

Other projects include: The Appalachian Oral History Project—students conduct audio-tape interviews with long-time residents of Eastern Kentucky, recording personal histories, stories, songs and recollections; Appalachian Heritage Magazine—a quarterly publication striving to "present the people of Appalachia—or to let them present themselves. . . ;" Man and his Environment—combination lecture and field work encouraging students to recognize that many of their customs, traditions and values have an environmental base; Caney Players and Appalachian Summer Theatre—a theatre company (involving students and resource people) creating authentic, innovative Appalachian drama; Appalachian Term—a term designed for ALC students as well as for people from outside the college, where about seventeen Appalachian-oriented courses are offered in addition to other learning experience; Photographic Archives—an effort to preserve the visual history of the region: Regional Research—ALL Director is re-evaluating the way in which Appalachian Regional Commission funds are spent in Eastern Kentucky, and students are assisting in projects associated with this reevaluation.

Students at Alice Lloyd College may also participate in the Appalachian Leaders in Community Outreach (ALCOR) program. ALCOR is a joint venture among six Appalachian colleges and is now administered by an independent non-profit corporation. The ALCOR program provides "a bridge between isolated families in rural hollows and health/education agencies." Students work in centers offering programs which may include: recreation, arts and crafts, nutritional education, personal hygiene information, and field trips and tours.

2 austin college

SHERMAN, TEXAS 75090

Austin College was founded in 1849 and has been in its present location since 1876. It is a coeducational institution with an undergraduate enrollment of over 1,100. Austin College has recently completed a four-year program in curricular reform, and has changed both faculty and student roles.

Students may choose a traditional program, or they may design an inter-disciplinary concentration of their own. Contract learning is also available. The student's first year is crucial to the success of the Austin educational concept. Students are encouraged to develop a personal identity, intellectual skills and communication abilities. An "Encounter with the Arts and Sciences" Program is required of all students. Students are also required to take "Heritage of Western Man," a three-course sequence taught by faculty in the Sciences and Humanities, and "Policy Research," a course for upper division students which examines social issues and attempts to develop alternative policies. Recently, Austin faculty have significantly increased their use of problem-solving approaches to teaching and learning. Self-paced peer media and computer assisted instructional procedures are also being used with greater frequency.

berea college

BEREA, KENTUCKY 40403

Berea College is located in the southern Appalachian Mountains. Eighty percent of the students are selected from this area. Student enrollment at Berea is between 1400-1500. "As an integral part of the educational program, each student is expected to perform some of the labor required in maintaining the institution, thus gaining an appreciation of the worth and dignity of all the labor needed in a common enterprise; acquiring some useful skill; and developing a sense of responsibility for a specific task." Berea operates on a 4-1-4 calendar, and offers a B.A. and a B.S. degree.

A common academic experience is required of all students. The core consists of: "Issues and Values," a course designed to sharpen research and communication skills; "Man and the Arts," a course stressing experiential involvement in music, literature and the arts; "Religious and Historical Perspectives," a course which nurtures one's insights into history and religion, and a senior level course on Christian ethics. Berea also has a cultural area requirement. Students must complete two courses—one in Black or Appalachian Culture (for example, "Problems of the South," "Black and White Issues," "Appalachian American"), the other in a non-Western culture (for example, "Arts of Asia, China and Japan," "States of Southeast Asia," "Latin American History").

Berea charges no tuition. In order to partially raise the necessary funds, students participate in a student labor program. Students staff nearly every aspect of the college: administration, food services, care of buildings, teaching assistants, secretarial work, etc. Students also work as craftsmen, laborers and managers. Student industry products are marketed on campus, by mail order and in stores.

Students must work a minimum of ten hours per week. Freshmen are assigned jobs while upperclassmen seek their own assignments. Labor assignments of increasing skill and responsibility are selected as the student progresses through the Berea program. In some instances, students can combine work experience with study (for example, hotel management students).

4

college of the atlantic

BAR HARBOR, MAINE 04609

Conceived in the late 1960's by a group of Mount Desert Island residents, and instituted in 1972, College of the Atlantic emphasizes the study of human ecology: "the relationship between people and their natural and social environments." With a student enrollment of around 100, College of the Atlantic operates on a quarter system calendar and offers one degree—a B.A. in Human Ecology.

The college curriculum is organized around three related areas: Social and Environmental Design (focuses on efforts to understand and create patterns for living which meet human needs in a manner that is compatible with the delicate complexities of the non-human environment); Human Studies (inquires into the nature, qualities and expression of being human); Environmentals (brings together the biological and physical sciences for an understanding of natural systems and processes). Most courses offered at the College of the Atlantic are interdisciplinary in nature. A representative sampling of courses offered at College of the Atlantic is: Maine Culture; True, Plumb, and Level; Landmark Cases in Environmental Law; The Literature of Ecology; Whitehead and Whitewater; Isolation; Ecology of Natural Systems. In addition to course work, requirements for graduation involve an internship spent on a job related to the student's academic and employment orientation, and a final project (a major piece of work) that may require as much as a year to complete.

colorado college

5

COLORADO SPRINGS, COLORADO 80903

Colorado College is a coeducational institution located in Colorado Springs. Established in 1874, Colorado College has a student population of about 1,800 and offers two degrees—B.A. and M.A.T.

The most distinctive feature of the college's program is its curricular format—the "block plan." The academic year is divided into nine, three and a half week blocks. This plan allows students to concentrate on one course at a time, fosters seminar-type teaching rather than traditional lectures, allows for extensive field work in a subject area, and enables the institution to engage prominent visiting teachers who would not be available for a conventional semester-long course.

Most courses are completed in one block, but some may take two or three. In addition to principle course work, students may take an adjunct course (in fields such as music, physical education or military science) for which fractional credit is given. No other course overloads are permitted. Each course has its own classroom which faculty and students may use at any time. Faculty and students set their own meeting time, and classes are small (generally about 14 students per class). Students average several hours of study for every hour spent in class. The block plan allows for flexibility in scheduling; for instance, students in an anthropology course may go to the field for the entire block, or students in an astronomy class may meet at midnight.

Academic areas are divided into three divisions: Humanities, Natural Sciences, and Social Sciences. Students are required to take courses in all three divisions, and during their sophomore year they select a major field where they will do concentrated work. Special programs at Colorado College include: a cooperative program with the Whitney Museum of American Art; and study abroad (German exchange program, independent study, and two block programs in Mexico and France sponsored by the Romance Language department).

6

curry college

MILTON, MASSACHUSETTS 02186

Curry College is a four-year independent coeducational institution offering two degrees—B.A. and B.S. Located outside of Boston, the college was founded in 1879 and incorporated as Curry School of Expression; Curry has been a liberal arts college since 1955.

Curry College has recently adopted a new mission. It is to provide a learning environment wherein students can become beginning professionals grounded in the qualities and abilities fostered by the liberal arts. To fulfill this mission, Curry formulated four principles for its academic programs: (1) that liberal arts and professional (or occupational) studies should be fully integrated; (2) that experiential learning and classroom learning take place concurrently. (3) that both life experience and college experience be recognized as deserving of college credit and (4) that students have the option of choosing a traditionally structured or individually planned program of study.

Students at Curry College are expected to identify four key competencies: the ability to cope with the reality of work experience, minimizing the "reality shock" commonly associated with the transition from classroom to workplace; the ability to perform competently in the profession of the student's choice; the ability to cope with and influence changes in society and adapt to career changes; and the ability to understand, to analyze critically, and to direct one's chosen profession, as well as the ability to achieve the technical excellence required by that profession.

Curry has recently moved away from the concept of 'majors' and has replaced this traditional system with ten programs of study, each based on the four principles of the college's mission. The programs are Communications, Fine Arts, Human Services, Humanities, Management, Natural Sciences, Nursing, Political and Historical Studies, Psychology, and Teacher Education.

The college has adjusted its schedule to rotate key courses into a once-a-week afternoon and evening schedule so that courses will be accessible to adults with family and job responsibilities. A continuing education office provides specialized support systems for the population of students.

davis and elkins college

ELKINS, WEST VIRGINIA 26241

Davis and Elkins is supported by the United Presbyterian Church. The college's 850 students have widely-varied educational backgrounds, and come from a wide range of socio-economic levels. About 40 percent of the alumni attend graduate school some time after graduation. The college operates on a 4-1-4 calendar, and offers four degrees: B.A., B.S., A.S., A.A.S.

At Davis and Elkins, students must master four basic proficiencies (Reading Workshop, English Composition, Basic Mathematics, and Physical Activities). This foundation comprises eight hours of the student's curriculum. A unifying series of four team-taught courses (one taken each year), which are cross-disciplinary in nature, form an integrated sequence. The requirements include Human Freedom and the Counter-forces, World Culture, Comparative Ideas, and The Future. These core courses are team taught with faculty drawn from many disciplines. The content of each course becomes the vehicle for developing self-confidence in the ability to solve problems. Each core course team develops a manual which includes methods, materials, evaluation devices and techniques, and basic concepts. In addition to the Foundations and Integrated Sequence requirements, students take General Studies electives, Independent Study, Major Field courses, and electives.

A Contract Degree Program is also offered to students. Students must design individual contracts (with the agreement of a committee of three sponsors) and prepare a thesis summarizing their four-year learning experience, as well as meet the standards of the General College program.

8

dominican college of san rafael

SAN RAFAEL, CALIFORNIA 94901

Dominican College of San Rafael is an independent, Catholic, coeducational institution located just north of the Golden Gate Bridge. The college is a four-year liberal arts institution that offers a variety of master's degrees and pre-professional programs in addition to its baccalaureate programs.

Of special interest is Dominican's innovative approach to the Humanities major, based on the concept of Colloquia. "Humanities colloquia are part of an intensive, interdisciplinary program of integrative studies called *The One and the Many*, funded by the National Endowment for the Humanities. A colloquium is a twelve or fifteen-unit interdisciplinary cluster of courses focusing on a period or concept, "great men," or a major problem in Western humanistic thought. Most colloquia consist of three closely integrated three-unit courses and a conference-seminar which correlates the content and concepts developed in the other courses. To complete the fifteen-unit requirement, the student either chooses an intensive language workshop related to a colloquium topic (as in "The Russian 'Soul' and The Greek Mind: In Pursuit of Excellence") or three-unit follow-up courses related to the topic of the twelve-unit colloquium."

Colloquia offered thus far have included: "From Intellect to Intuition: Basic Perspective on Human Knowledge" (literature, philosophy, art, psychology); "The Russian 'Soul'" (literature, political science, music and Russian language); "Great Men in Pursuit of Excellence—Integrated Study of Eight Great Men: Homer, Freud, Bach, Rousseau, Darwin, Plato, Jefferson, Da Vinci"; "The Medieval World View: Unity in Diversity" (art history, theology, philosophy, music, literature).

During the junior or senior year, the Integrative Seminar is required of all humanities majors. This seminar involves the in-depth study of a major humanistic topic. Students must also synthesize and integrate an individual major, present an integrative seminar paper, and select a topic for their senior project. The senior project consists of the completion of a piece of independent work which can be shared with others at the college (for example, a thesis, public lecture, a design for a new humanities course or performance).

eckerd college

9

SAINT PETERSBURG, FLORIDA 33733

Eckerd College is an independent institution affiliated with the Presbyterian Church. About one-half of its 850-member student body comes from Florida; though forty other states and nine countries also are represented. Eckerd operates on a 1-2-2-1-2-2 modular calendar, and offers two degrees—B.A. and B.S.

In 1960, Eckerd created the Winter Term, a concept now widely used at other collegiate institutions. Eckerd's innovative spirit is reflected in several programs which form the student's academic experience at the college.

The Mentor Program: freshmen select a mentor (a faculty member) before they arrive on campus from a descriptive list of mentors and projects. During their freshman year, students take at least one course from their mentor, and the mentor serves in an advisory role for the student as she works out her academic program for the first year. Upperclassmen select a new mentor—a specialist in the student's area of academic concentration. The student and mentor work closely together to plan the student's program.

The Autumn Term: freshmen attend this special term, which goes beyond the traditional concept of orientation. Students take a course, taught by their mentor, and engage in one academic project (for credit). "This project is stimulating in content, teaches basic academic skills, and focuses on the interdisciplinary nature of learning."

The Values Sequence: the classes for this program comprise the only required courses at Eckerd. "The Values Sequence is an expression of our belief that one must educate the whole person, and that professional, career-oriented education is deficient unless it is placed within a wider context of thought." These courses include lectures, small group discussions, seminars and individual study of written work. The Values Sequence continues throughout the student's four-year program: freshmen explore the Jewish and Christian heritages and examine the questions of the contemporary world in light of these traditions; sophomores concentrate on cultures other than the student's own; juniors participate in a seminar that will relate to their field of academic concentration; and seniors examine the practical issues associated with application of learning, career choices, and the total college experience.

Foundations Collegium: this collegium for freshmen, "is devoted to learning how to accomplish independent, self-motivated study and thought at the college level, acquiring the background to understand humanity's search for values and meaning, learning the principal modes in which the mind does its work, exploring various disciplines. . . ." The collegium is composed of three elements: (1) Foundations seminars (first year components of Values Sequence), i.e. "Defining Human Nature" and "Search for Spirit"; (2) Modes of Learning, a program to sharpen the student's learning capabilities in a specific field of study, and to enhance certain essential skills such as the abilities to analyze, synthesize and evaluate; and (3) Electives selected by the student.

The Collegium Concept: Rather than divisions, Eckerd has established interdisciplinary collegia which support various combinations of studies and show the interrelatedness of knowledge. The five collegia (which include 30 concentrations) are: Creative Arts, Comparative Cultures, Behavioral Sciences, Letters, and Natural Sciences.

Eckerd College also attempts to offer every student the opportunity to study abroad. Various programs are offered, including Winter Term Abroad, Comparative Cultures collegia (a seven-week summer module abroad), and Semester abroad (offered at the normal on-campus cost).

evergreen state college

10

OLYMPIA, WASHINGTON 98505

Evergreen State College was established by the Washington State legislature in 1967. The college is small (about 2,000 students), and offers a B.A. degree. The programs at Evergreen are constantly changing and evolving: "All our academic programs include their own self-destruct mechanisms. Although we certainly retain our concern for the immense and significant problems implied by programs now being studied, we have committed ourselves to critically modifying each year the ways in which we attack these issues."

Full-time students may earn credit through the Coordinated Studies or Contracted Studies programs. Methods of learning include: participation in seminars, lectures, tutorial conferences and workshops; performance of assignments in reading, writing, and other forms of communication; individual research and creative projects in the natural sciences, social sciences, humanities, arts, and many interdisciplinary combinations; field trips, community service projects, and overseas study; cooperative education by working in offices, agencies and businesses; completion of self-paced learning units; and involvement in public presentations and performances.

"Performance in each Coordinated or Contracted Study will be represented in a student's cumulative portfolio by descriptions of projects, close evaluations by faculty and other staff sponsors, the student's self-evaluation, and samples of the work done.

Coordinated Studies programs usually involve 60 to 80 students and three or four faculty members. The programs are interdisciplinary and concentrate on a central theme or problem. This type of program has a comprehensive design, a required set of activities, and a common schedule of meeting times. There is also a common required reading list. A seminar is at the heart of each Coordinated Studies program, but the program includes a variety of other activities such as field trips, independent study, and lectures.

The Contracted Studies program is based on an agreement to carry out a project, made between the student and faculty member. There may be individual contracts, group contracts, or a combination of both. The sponsor (faculty member) and the student work closely together in developing the Contract. Contracted Study allows students to pursue specialized and lengthy projects in areas of particular interest. It also allows students to combine practical experience with on-campus activity.

Forty-five Evergreen units are required for graduation. The evaluation of students' work is carried out in a variety of ways, and is included in the official transcript, as well as in the students' 'Portfolio'. The Portfolio contains basic documents and samples of work—written, photographed, drawn or recorded.

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johnston college-university of redlands

REDLANDS, CALIFORNIA 92373

Johnston College, an innovative cluster college located on the University of Redlands campus, was created in 1969. In 1973, Johnston became the first cluster college in the country to receive its own independent accreditation. With a student body of 270, the college offers a liberal arts B.A. degree and a M.A. in Humanistic and Transpersonal Psychology.

Courses cluster around the idea of life as a process of discovery. "Three key elements lie at the heart of the academic program. Two—the contract system and the curriculum building—are the cornerstones upon which all Johnston education has been built since the school opened. The third is new—a series of integrative courses designed to combine academic and personal discoveries in fresh ways."

The basic outline of integrated courses is planned but in a deliberately general fashion. Entering students are exposed to *Self-Reflection as Knowledge, The Nature of Society* and *Ways of Knowing*. Second year students are offered *Development of Civilization* and *The Unity of It All*. Cross-acculturation and historical studies are offered to third year students as well as second year. Time at another university or in a working internship is emphasized in the third year. Fourth year students involve themselves in the senior research project.

There are no predetermined course listings. Courses develop through negotiation between students and faculty. The faculty post courses they would like to give and, in turn, students post courses they would like to take. Actual contracts are negotiated during initial class meetings. Each class develops a contract including the course description and the class contract itself. The contracts may be renegotiated as student expectations and perceptions change. A student's graduation contract must be presented to the individual's committee at least one year prior to graduation.

12

john wesley college

OWOSSO, MICHIGAN 48867

John Wesley College is an independent, Christian four-year liberal arts institution. Since its independence in 1970 (formally Owosso College), the college has expanded its physical campus to meet the needs of a growing student population of about 525 men and women (an increase of 218 percent since 1969).

The curriculum encompasses three emphases: encounter with self, with God and the arts and sciences; involvement in the contemporary world; and commitment to study and service. Each student, together with his advisor, formulates an educational program called a contract that focuses on the specific goals of the student. Students may make use of both on-campus and off-campus resources as aids in completing the contract requirements (nine required courses). Students are assisted in identifying and clarifying educational and life goals before developing their contract. The general themes of Encounter, Involvement, and Commitment move students from a broad understanding of concepts to a real world involvement and an in-depth study of an area of concentration.

Depth Studies are contractually-agreed-upon "areas" of study comprising at least 45 semester credits of work. These areas of study permit students to construct individualized programs, developing competencies which are supportive of their individual educational goals. These are often cross disciplinary or interdisciplinary plans which are difficult to describe in traditional 'major' or 'major and minor' terms. Students can also test potential careers through a Career Explorations program, and, at no extra cost, students may travel for four weeks in the United States or abroad as part of their college program.

lone mountain college

13

SAN FRANCISCO, CALIFORNIA 94118

Lone Mountain College is a private, coeducational, liberal arts college founded by the Religious of the Sacred Heart in 1898. It was chartered as San Francisco College for Women in 1930 and renamed Lone Mountain College in 1970. The institution has 650 undergraduate students and 150 graduate students working in the following accredited degree programs: B.A., B.S., B.F.A., M.A., M.S., M.A.T., and M.F.A.

The college operates on a 4-1-4 academic calendar and the following core programs are offered through open registration: On-Campus Tutorial, Off-Campus Study Program, Credit by Examination and Independent Study. In addition, there are innovative experimental courses specifically designed to navigate students toward the ultimate goal of self-directed growth. The five-part core program emphasizes the mastery of tools for continuing exploration.

The various areas of study at Lone Mountain incorporate diverse approaches to learning which, when mastered, enable the student to choose the most suitable means of approaching a new learning situation: Expression/Awareness—the exploration of self and encounter with the external world; Human Relations/Cross Cultural—developing human relations skills in cross cultural settings; Issues; History; and Community Action Projects.

A significant element of the project is Tunbridge in San Francisco. Tunbridge is a program of career or interest exploration that is student-designed and based on student goals. Students use a network of individuals who represent a great diversity of occupations, attitudes and life-styles. Intellectual objectivity, involvement in various aspects of one or two fields and forty-minute weekly tutorials for five months comprise a student's Tunbridge experience.

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mars hill college

MARS HILL, NORTH CAROLINA 28754

Mars Hill College is the oldest liberal arts college in Western North Carolina. Founded in 1856 as the French Broad Baptist Institute, Mars Hill received full accreditation as an independent four-year college in 1967. An undergraduate coeducational institution, Mars Hill offers five degrees, emphasizing "the union of Christian and academic concerns."

The graduation requirements at Mars Hill are stated in terms of one area of special competence and general competence in six areas. "A graduate of Mars Hill College: (1) is competent in communication skills; (2) can use knowledge gained in self-assessment to further his/her own personal development; (3) comprehends the major values of his/her own and one foreign culture, can analyze relationships of values between the cultures and can appraise the influence of those values on contemporary societal developments in the cultures; (4) understands the nature of aesthetic perception and is aware of the significance of creative and aesthetic dimensions of his/her own experience which he/she can compare to other cultures; (5) understands the basic elements of the scientific method of inquiry, applies this understanding by acquiring and analyzing information which leads to scientific conclusions and appraises those conclusions; (6) has examined several attempts to achieve a unified world view and knows how such attempts are made. The graduate is aware of the broad questions that have been posed in the history, philosophy and religion of western civilization and can assess the validity of answers given to these broad questions in terms of internal consistency, comparative analyses, and his/her own position; and (7) is competent in an area of specialization."

Each new student is interviewed, tested and counseled in an attempt to create a personalized academic program that is designed to achieve the required competences, and to attain his own personal, professional and academic goals. In addition to traditional on-campus coursework, Mars Hill students may participate in off-campus study (both within the country and abroad); a Cooperative Education Program (integrating classroom study with an alternating period of professional work experience) and Internship Opportunities (emphasizing 'learning through service,' this program offers tutoring on and off campus, environmental research, child development activities, etc.).

new college-university of south florida

15

SARASOTA, FLORIDA 33580

"Every aspect of the college, from the contract and the non-graded curriculum to the unmonitored dormitories, assumes you will take responsibility for yourself. *You* must reach out into the college community and tap its resources. The traditional 'props' of grades, required class attendance, dormitory parietals, and the like are gone. People are here to suggest possibilities and challenge you to new levels of understanding and creativity, but they cannot ensure that you will become involved in your own development."

This position, from the New College catalogue, also informs an incoming student that assurance of involvement is solely dependent on her own inner motivation. The challenge is made evident by the creation of a contract. There are 400 men and women under contract, 95 percent from white upper middle class families.

The Contract System consists of a set of specified goals, a set of undertakings, and a set of certification criteria. These are negotiated between each student and faculty member at the beginning of each ten-week term (quarter system). Negotiations place emphasis upon individual goals and program development, individual contact between students and faculty, and goal-oriented evaluation (rather than evaluation by absolute standards).

Course offerings range from introductory level to the more advanced and specialized; all are conducted under the contract system. Students are encouraged to take courses in areas of faculty research and conduct their own research or work with a faculty member. Emphasis is placed on tutorials and independent research. Students are permitted, with faculty sponsorship, to design their own special programs and majors.

There are no grades and no credit hours at New College. Rather, a narrative evaluation is written for each student. Students are offered an option of finishing in three or four years, taking up to three terms off at any point in the program. Graduation requirements consist of four independent study projects designed and executed by the student and a senior project which clarifies and solidifies the student's knowledge in her field. Only successful undertakings appear on the transcript as "areas of competence."

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northland college

ASHLAND, WISCONSIN 54806

Northland College is located on the shores of Chequamegon Bay, on the southern edge of Ashland, Wisconsin. Making full use of this site, the faculty, staff and students at Northland attempt to integrate the liberal arts with studies of the natural environment: "Through its concern for the natural environment which sustains all life as we know it, Northland seeks to educate its students broadly so that they will achieve an understanding of the physical universe while also developing a sensitivity to, and appreciation for, nature. Further, it sees this emphasis on environmental studies as an interdisciplinary effort which is complementary to, not antagonistic to, its concern for the liberal arts."

At present, more than two-thirds of Northland's students are attracted to the institution because of its environmentally-related programs. Environmental Studies and Native American Studies represent the major interdisciplinary emphases at Northland. The college also offers several integrated majors (for example, Art and the Physical Environment, Biology/Environmental Studies, Environmental Business Administration) which combine work in environmental studies with a solid foundation in one or more traditional liberal arts disciplines. "The Liberal Studies program represents a synthesis between traditional distributive liberal arts requirements, in which students are required to take introductory courses in a number of discrete disciplines, and a liberal arts program based on a core of required interdisciplinary courses." All students are required to take at least six and one-half units in the Liberal Studies program in order to graduate.

Northland's curriculum is in a state of evolution. Student organizations are active in environmental and curricular concerns, and many students become involved in environmental projects through the Sigurd Olson Institute of Environmental Studies. The natural surroundings, including the Apostle Islands National Lakeshore, are used whenever possible as a laboratory for classes. An outdoor experience in northern Minnesota is an important feature of the Northland freshman orientation program.

ottawa university

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OTTAWA, KANSAS 66067

Ottawa University's 700 students come from over 40 states and 10 foreign countries. The institution shares a relationship with the American Baptist Convention but does not consider itself narrowly sectarian. As a Christian college, "Education for Service" is a mandate for the institution.

The Ottawa Plan encompasses several elements which combine to create the academic process at the college. Each student, with his advisor, plans his own educational program, taking into consideration personal interests, abilities and goals. "The educational planning process culminates in the development of an educational contract between the student and the university specifying the student's graduations requirements."

All students are required to take seven basic Core Seminars in the general education program. Two of the seminars are taken in the freshman year, three during the sophomore year, and the final two seminars are taken in the senior year of study. "The content of these seminars examines the persistent questions facing mankind from the perspectives of the past, the present, and the future. Among the questions considered are man's understanding of himself, man's relation to the world, and man's collective problems in society." In each Core Seminar, there may be a variety of learning modes, such as small group discussions, media presentations, field trips, large group presentations and individually-designed instructional modules.

Rather than concentrating on a specific "major," Ottawa students develop a Depth Study which "permits the student to draw upon a wide range of academic departments and educational experiences in designing the individualized depth study plan he needs to achieve his own goals." The depth study plan also takes into consideration career planning and preparation.

"In an effort to support its goals of interdisciplinary study, educational planning to meet personal and vocational goals, contract development, and careful evaluation of educational accomplishment and personal growth, Ottawa has established a form of academic organization called Academic Centers. Every faculty member is a member of a specific department and belongs to one of the four Academic Centers. These Centers sponsor regular courses, independent studies and seminars, assist in-depth study development, provide support and direction to advising within the area of concern of the Center and with regard to career options, sponsor special programs, and provide a focus for ongoing interchange among faculty and students whose educational and career goals fall within the Center itself." The four Centers include the Center for Communication, Expression, and Value Clarification; Center for the Study of Organizational and Cultural Issues; Center on Issues of Individuality and Personal Values; and Center for the Study of Human Interaction with the Environment.

spring arbor college

18

SPRING ARBOR, MICHIGAN 49283

Spring Arbor College is attempting to find its place in the academic sun by coming to grips with the problems of integrating the Christian philosophy of life with the discipline of the liberal arts. The institution is a distinctive Christian liberal arts college with the Spring Arbor Concept as the philosophical base for the entire campus community:

> *The Spring Arbor Concept speaks of a unique idea and ideal for the Christian liberal arts college. It calls for a community of learners who are distinguished by their serious involvement in the study of the liberal arts, and their total commitment to Jesus Christ as a perspective for learning and their critical participation in the affairs of the contemporary world. It demands a design that shapes a curriculum, builds a campus and develops a climate for learning.*

The purpose and operational objectives of the Christian college must be implemented in a specific learning program. The learning sequence for the identification, analysis and integration of issues was chosen as the guideline. From exposure to facts and issues (awareness), the student moves to a distinction between right and wrong (discrimination) and then to a choice of the right (commitment).

The core courses include: The Christian Faith—Biblical Foundation; The Christian Faith—Living Issues; and The Christian Man in the Contemporary World.

In addition to the core courses, the College offers a Christian Perspective Focus Series which includes such events and activities as: The Chapel-Convocation Series, The Town and Gown Cultural Series, Lectureships and Seminars in Special Interest Areas, and Mini-Emphasis Weeks.

Some of the issues which are covered in classes at Spring Arbor reflect the values orientation of the College. For instance:

HUMANITIES: *Should literature and art have a moral? Is the artist morally responsible for his work?*

NATURAL SCIENCE: *Is man a product of purposeful or chance creation? Is relativity a philosophical as well as a scientific concept?*

SOCIAL SCIENCE: *Does man exist for the good of society or does society exist for the good of man? What is the relationship of church and state?*

PHILOSOPHY/RELIGION: *What is right and how do we know what is right? Is truth relative or absolute?*

19

sterling college

STERLING, KANSAS 67579

Affiliated with the United Presbyterian Church, Sterling College has established itself as a learning community of believers. "The program of activities on campus seeks to stimulate and encourage the exploration of and search for faith, identity, Christian commitment, community, growth, worship, witness and service."

Although the college stresses its competency-based curriculum, energies are also directed toward values and heritage. This is evident in the philosophy of the college and in its course offerings. Students are required to complete nine performance-based competencies (for example, Comprehend the Christian Heritage, Comprehend the Artistic and Aesthetic Dimensions of the Cultures, Demonstrate Competency in Verbal Communications). About 50 percent of the hours required for graduation are devoted to performance-based competencies. Competency-based majors in the disciplines are now being formulated.

Sterling sponsors or co-sponsors several interim travel and study experiences. Students may attend Union College in Barberville, Kentucky for the Appalachian Semester. Westmont College in Santa Barbara, California cooperates with Sterling in placing students in Westmont's Urban Semester Program located in San Francisco. Students may also participate in a full program of study in Jerusalem through the Institute for Holy Land Studies.

warner pacific college

20

PORTLAND, OREGON 97215

Warner Pacific is a four-year, coeducational liberal arts institution with a Christian orientation. The college grants both B.A. and B.S. degrees in several areas of the liberal arts and offers one graduate degree in religion.

Current curricular activities involve planning within the Curriculum Committee and within the faculty-at-large to develop a massive redefinition and reconstruction of the entire curricular offering of the campus into vocationally-oriented Centers. The roots of the programs in each Center will be in the Center for General Studies, which will house the core curriculum of the college. At the heart of the Center for General Studies is the interdisciplinary Culture of Western Man and other general studies requirements. Each center will be constructed on an interdisciplinary basis with a strong emphasis on breadth, career planning and service vocations.

The Culture of Western Man program is arranged in 12 categories including: the Nature of Civilization, the Nature of Western Life Styles, the Nature of Political Power and Political Theory, the Nature of Social Organization, the Nature of Religion, etc. Two of these topics are the focus of the course each term over a two-year period. The program utilizes interrelated lectures, individualized study programs, and small group discussions. This six-quarter program in the liberal arts is required of all freshmen and sophomore students, and it integrates literature, philosophy, history, sociology, science, economics, religion, fine arts, and political science. There is also an independent research option available for the student wishing to go beyond the confines of the course into related values areas. A major emphasis of the program is on values clarification through reading, writing, discussion and simulation-gaming.

21

william james college-grand valley state colleges

ALLENDALE, MICHIGAN 49401

William James College is one of four semi-autonomous undergraduate liberal arts colleges that share the same campus and comprise (along with two graduate schools) the Grand Valley State Colleges. William James College was designed in 1970-1971 around the concept of education as stated by William James:

> *Education in the long run is an affair between the individual student and his opportunities. Methods of which we talk so much, play but a minor part. Offer the opportunities, leave the student to his natural reaction to them, and he will work out his personal destiny, be it a high one or a low one.*

The operative principles of the college, adopted in May, 1973 specify the goals and objectives of study:

> WILLIAM JAMES COLLEGE *aims to be person-centered, fostering intellectual and personal growth within a community of learners.*
>
> WILLIAM JAMES COLLEGE *aims to be future-oriented, connecting our programs and activities with humanity's projected needs.*
>
> WILLIAM JAMES COLLEGE *aims to be career-directed, with programs and activities designed to enable persons to do personally satisfying and socially useful work, as well as to enable those who wish to move on to advanced study.*

It is important to note that at William James, career education is not viewed as incompatible with a liberal arts education.

The curriculum is created anew each term, in response to three co-equal tensions: (1) Is the proposed course something that a particular faculty member desires to offer? (2) Is the proposed course something that the college might want to offer frequently? (3) Is the proposed course something that students have expressed an interest in having offered?

Students are challenged to set and test their own goals, decide what competencies and knowledge are required to master these goals, and seek out or create learning situations that will fulfill those identified needs. Learning situations may include taking classes at other undergraduate institutions, taking classes at the other Grand Valley State Colleges, taking classes at William James College (which they may have helped to create); independent study; and internships or work experience. The individual programs do not require classes, majors or minors. There are no distribution requirements, letter/number grades or examinations. The curriculum is un-ranked.

Requirements for the B.S. degree are: (1) 45 hours in the Synoptic Program (students select from one to four concentration programs and illustrate the relationship of each concentration by integrating the whole unit), (2) 45 hours in the concentration program in which the degree is awarded, and (3) demonstration of the ability to write with clarity.

22

worcester polytechnic institute

WORCESTER, MASSACHUSETTS 01609

Worcester Polytechnic Institute has undertaken a complete and systematic revision of its traditional approach to undergraduate engineering education. There was a growing concern that engineering and science students were so constrained by the dictates of an impersonal, lock-step system that their full development as thoughtful individuals was not being achieved. The resulting educational program, known as the "WPI Plan," is the product of two years of intensive planning and seven years of implementation involving every one of its 170 faculty members and 2,200 undergraduate students. The Institute's competency-based plan is a radical experiment in educating "technological humanists."

WPI offers few and unusual degree requirements. While most science-engineering institutions impose about two dozen prerequisites for a degree. Worcester has just four. The first relates to the student's major technical field, the second links that field to specific human values and societal needs.

The third requirement is called "humanities sufficiency." For this the students are expected to show their grasp of one area of the humanities. Typically, they achieve this by taking five humanities courses which they relate to a common theme; they then develop this theme in a paper for a sixth course seminar. Finally, there is a "competency examination" in which students demonstrate they can apply what they have learned in their major technical field to technical problems that are posed to them.

These degree requirements set the direction, pace and mood of the educational process. They also serve as pivots for individualized programs including lectures, seminars, laboratory work and selfpaced study. While students must complete 12 study units before taking the exam, they are free to choose their own courses and design their own curriculum.

Worcester's calendar consists of four, seven-week terms, plus a summer session. In January, there is a two-week 'Inter-session.' Evaluations are in the form of three grades: Acceptable with Distinction, Acceptable, and No Record.

APPENDIX C

curricular planning tools*

*The planning tools selected for inclusion represent valuable ways in which colleges and universities can implement and assess new innovative curricula.

delphi technique

1

The delphi method is a planning tool which has been successfully used in a variety of colleges and universities to assess institutional goals and priorities. A sample of the college community (or the entire community) is given a questionnaire which asks for ratings of several potential institutional goals. After the completed questionnaires are returned and analyzed, the respondents are sent a second questionnaire which once again asks them to indicate their preference for the same list of institutional goals (plus several more if respondents are asked to add to the list during the first round). During this second round, each respondent is given information about how other members of the college had responded to the first list of institutional goals. Usually the twenty-fifth and seventy-fifth quartile responses are indicated, along with the mean. Each respondent is told, in other words, how the middle fifty percent of his colleagues have responded to each goal statement. In completing the second questionnaire, each respondent is to briefly indicate a rationale for his rating, if this rating lies outside the middle fifty percent of responses (from round one). After the second round questionnaires are collected and analyzed, a third questionnaire is distributed which includes information about the mean, twenty-fifth and seventy-fifth quartile responses to the second questionnaire, as well as a listing of the rationales that were written by the "deviant" respondents to the second round questionnaire.

The delphi technique is designed to highlight the rationale for deviant responses, for it is assumed that this rationale will contain new information, perspectives or value-statements which are unknown to the middle, fifty percent respondents. By emphasizing the deviant responses, one forces the middle-respondents to test their own opinions. All too frequently, the middle respondents rest easily on their opinions, without ever having to re-examine these opinions based on the ideas of the deviants. When used effectively, the delphi technique is a remarkable antidote to conformist goal-setting.

Any number of rounds can be conducted, though most respondents' tolerance is severely taxed by the fourth or fifth rounds. At least three rounds are needed to ensure that each respondent is able to reassess her own curricular goals on the basis of information about other respondents' goals. In some instances, a delphi survey of institutional or curricular goals can have a significant impact on some respondents. As a result of the survey, some may discover that their own goals differ significantly

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SOURCE: WILLIAM H. BERGQUIST
(Derived from procedures that are widely used and described in Richard Weatherman and Karen Swenson, "Delphi Technique," in S. P. Hencley and J. R. Yates, *Futurism in Education* [Berkeley, California: McCutchan Publishing Co., 1974]).

from the other respondents. At times, recognition of this discrepancy brings relief, for the respondent may have attributed her discomfort in the institution exclusively to other factors (though usually other factors are contributing to the discomfort). At other times, recognition may bring increased interpersonal alienation, as well as reduced institutional allegiance.

A convergence in goals among the respondents after the first or second delphi rounds probably indicates that the institution can arrive at a meaningful statement of curricular goals. If the goal-ratings remain divergent even after three or four rounds, then one of several approaches should be taken. The curricular planning group should first determine if the goal-ratings of specific sub-groups in the institution tend to converge, in which case curricular planning might be reorganized around these sub-groups. The planning group might also test for a compromise in goals by setting aside controversial goals. Third, the group might simply recognize these differences in goals and plan for the creative use of institutional diversity.

The delphi technique has frequently been used to determine the goals for a specific education or training program. The National Laboratory for Higher Education in Durham, North Carolina, has assisted institutions to identify goals by using a shortened form of the delphi technique. Reactions from students, faculty and administrators are incorporated in a one-day workshop. Arthur Chickering has identified two other procedures that can be very useful in the identification of curricular goals. The first of these procedures begins with the identification by each faculty member, or a sample of faculty members, of two or three persons on campus who could be considered "ideal" students or graduates. Each faculty member then identifies some characteristics these students possess which have led the faculty member to select them. The data are analyzed to determine the commonly identified characteristics. Furthermore, those students who have been frequently selected are studied in-depth: the characteristics of these students when they entered the institution, the type of educational programs they received while attending the college, and the characteristics they possessed upon leaving the institution. This "flesh and blood" assessment of outstanding student characteristics can be translated into concrete educational goals for the curriculum.

The second goal-assessment procedure that Chickering recommends is based on "words and deeds." During a one week period, members of the college community are asked to identify those behaviors they observe on campus and in the classroom that should be central to the mission of the institution. This information is analyzed and brought before the curricular planning group. A question is broached: Are these behaviors consistent with our current curricular goals? The curriculum of the college is then reviewed with reference to its encouragement of these behaviors. Market survey data can also be of value in goal assessment, for this type of information indicates the extent to which specific goals have a beneficial or adverse effect on critical market variables. Similarly, an awareness of the traditions and precedents of an institution provides an important perspective in the consideration of alternative curricular goals.

force field analysis

2

Force field analysis consists of three steps. First, a list of curricular goals is formulated. Second, a list of "forces" (influential variables within or outside the institution) which assist ("drive") or hinder ("block") the college in moving toward each curricular goal is derived. Third, an assessment is made of each force with reference to its strength, resiliency (resistance to change in either strength or direction) and clarity (how much do we know about its direction, strength or resiliency). In some instances, a specific factor will be simultaneously both a driving and blocking force with reference to a specific curricular goal. This seeming paradox is surprisingly common and extremely important to identify. Even more frequently, one specific factor will act as a barrier against the accomplishment of another.

The force field analysis technique is simplistic, but nevertheless, powerful. It can effectively assist a planning group in the identification of key leverage points for curricular change. An effective curricular reform program should focus on reducing the strength or direction of those hindering forces that are strong but not particularly resilient. At the same time, the reform should rely heavily on those driving forces that are both strong and resilient, while increasing the strength and securing those driving forces that are weak or susceptible to change.

A curricular reform which relies on driving forces, without reducing at least some of the hindering forces, will rarely be successful, for the hindering forces tend to increase in strength as well as resiliency when a program begins to achieve its objective. Those campus figures, for instance, who are most opposed to a curricular change will usually only begin to marshall full opposition to the change if and when the program seems to be successful. If the opposition is not confronted at an early point in the change effort, then it may increase to a point later on when it can successfully block any further curricular reform.

Force field analysis provides a systematic means for identifying and assessing the strength and resiliency of both driving and blocking forces prior to the time when these forces must be used or confronted. If members of the curricular planning group differ in their estimation of the direction, strength or resiliency of any force, then the group should gather more information at this early point in order to clarify the nature of the force, rather than pushing toward action. Not only will the additional data

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SOURCE: WILLIAM H. BERGQUIST
(Based on practices and principles derived from many sources—in particular C. Jung, R. Pino and R. Emong, *RUPS: Research Utilizing Problem Solving* [Portland, Oregon: Northwest Regional Educational Laboratory, 1970, pp. 70-108]).

improve the quality of decisions made about the curriculum, but this data also, in many instances, will help to diffuse a possible source of friction among members of the curricular planning group.

During the first step in a force field analysis, curricular goals are identified, through the use of a delphi procedure (see Planning Tool Number One), through the use of curricular goal statements that have already been formulated as institutional policy (for example, in the college bulletin), or through some other procedure. The goal should be clearly formulated: how will the planning group (or other decision-making body of the college community) know if and when this goal has been reached? The nature and scope of each goal should also be defined: when must the goal be reached? Who is ultimately responsible for the attainment of this goal? For whom is attainment of this goal important? Each member of the curricular planning group should also explicitly identify his own personal investment in the goal: what does each member have to gain from the attainment of this goal? A preliminary statement of each goal should be listed at the top of a force field analysis work sheet (see attached form). The goal statement may be changed after the force field analysis is underway.

The second step involves the identification of driving and blocking forces. On the lower left-hand side of the force-field analysis form, the *primary* forces that now could assist the college in reaching the identified goal are listed. What are those forces (human, financial and physical resources; events; attitudes; precedents; and so forth) which would *ensure* that the college reaches the goal, if there were no negative forces. The planning group should try to assume a very positive attitude in filling out this side of the form. All positive forces that are suggested should be listed, even if they might also be negative forces. Only after both the positive and negative analyses have been completed will both types of forces be critically re-examined. Some important forces may be both positive and negative with reference to a specific goal.

The *primary* negative forces are then listed on the lower right-hand side of the form. Those entities that now hinder or could hinder attainment of the goal constitute negative forces: if these were the only forces in existence, the college would never be able to attain the goal.

The third step involves rating each force. First, each of the positive and negative forces are rated as to its significance with reference to attainment of the specific goal. A planning group must be careful not to automatically assume that a force which seems to block many of the movements toward change on campus is a significant force with reference to this specific goal. A specific person or condition (e.g. financial instability) is often used as a convenient excuse to prevent any effective action, when, in fact, major changes can be made irrespective of this person or condition.

Each force is then rated with reference to its resistance to change: how resilient is this force to efforts at increasing or decreasing its impact or changing its direction, with regard to this specific goal? Finally, each of the positive and negative forces should be rated as to its clarity: what evidence is there that this is a force? How clear are we about the nature and direction of this force?

The resultant force field analysis can be used in a number of ways. Perhaps most importantly, it generates provocative questions that effectively lead a curricular planning group toward the development of strategies for curricular reform. Following is a list of several valuable insights that can be derived from most force field analysis:

1. Those forces that are positive, significant, resistant to change and clear should serve as cornerstones. They should be incorporated directly into any curricular proposal.
2. Those forces that are positive and significant, but not resistant to change, should be secured and made more stable. Those that are unclear should be the basis for further data collection.
3. Those forces that are negative and significant, but not resistant to change, should be the primary focal point of any change efforts associated with the curriculum.
4. Those forces that are negative and significant, as well as being highly resistant to change, should be isolated or detached from the curricular reform process.
5. Curricular change will not take place simply by increasing the intensity of positive forces, or by adding new positive forces, for negative forces tend to increase in response to increased positive forces. In most instances, negative forces must be reduced while positive forces are increased.

Force field analysis is a technique with which many planners in higher education are familiar, yet, it is often dismissed as too elementary. In practice, a force field analysis can be among the most effective tools that a curricular planning group can use. When all of the steps are carefully followed, the product of this disciplined inquiry will be of surprising value.

FORCE FIELD ANALYSIS

GOAL STATEMENT

FORCES WORKING FOR THIS GOAL	FORCES WORKING AGAINST THIS GOAL
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY

FORCE FIELD ANALYSIS

GOAL STATEMENT

FORCES WORKING FOR THIS GOAL	FORCES WORKING AGAINST THIS GOAL
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY
DESCRIPTION OF FORCE	DESCRIPTION OF FORCE
SIGNIFICANCE	SIGNIFICANCE
RESISTANCE	RESISTANCE
CLARITY	CLARITY

cross-impact matrix

3

Cross-impact matrices, like the delphi technique, were originally used in forecasting technological innovations, but have been used more recently in planning for educational change (especially by the American Association of State Colleges and Universities). This tool provides a systematic assessment of the interrelationships between several events or forces. Though the tool often involves the determination of statistical probabilities for the occurrence of each event, and the generation of multiple-event probabilities, these statistical procedures are not essential to the development of a matrix, nor are they necessarily appropriate in planning a curriculum.

A cross-impact matrix can be used, much like the force field analysis, as a vehicle for systematizing data that are gathered about the institution. This technique differs from the force field analysis, however, in that driving or blocking are considered not with reference to a specific curricular goal, but with reference to other forces or events. A cross-impact matrix will not provide new information about the college, but it does enable a curricular planning group to systematically investigate the interrelationships between several possible events—a process that is often ignored in planning for curricular change.

For the purpose of illustrating the use of cross-impact matrices, a hypothetical example will be offered. Though most matrices are constructed with at least eight events, we will limit our hypothetical matrix to five. These five events are all assumed to be possible over the next five years. Some of the events relate directly to curricular issues; others are of more general concern to the institution. Three of the events lie outside the institution's control: 1) there will be twenty percent fewer individuals in the 18-22 year age range that live in the population centers from which this college draws most of its students, 2) there will be a reduction of ten percent in the total endowment of the institution, resulting from increased operating costs, decreased rates of private benefaction and probable decreased enrollment, and 3) there will be an increasing emphasis on career education among new students enrolling in the college. Two other possible events are subject to institutional control: 4) there will be a ten percent reduction in total staff size, yielding a savings of five percent in total operating costs, and 5) there will be a new faculty training program to prepare the institution for the "new" career-oriented students.

These five events are plotted on a matrix (see Table One). Upturned arrows (↑) indicate that the event in the vertical column will have a driving influence on the event in the horizontal row (the probability of the second

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SOURCE: WILLIAM H. BERGQUIST
(Based in large part on Delayne Hudspeth, "The Cross-Impact Matrix," from S. P. Hencley and J. R. Yates (ed.), *Futurism in Education* [Berkeley, California: McCutchan Publishing Company, 1974, pp. 121-126]).

event is increased as a result of the occurrence of the first). Downturned arrows (↓) indicate a blocking force (a decrease in the probability of the second event as a result of the occurrence of the first). A zero indicates that the two events are probably unrelated.

TABLE ONE

	(1) DECLINING POPULATION	(2) DECLINING ENDOWMENT	(3) CAREER STUDENT	(4) DECLINE STAFF	(5) FACULTY TRAINING
1. DECLINING POPULATION		↑	0	↑	↓
2. DECLINING ENDOWMENT	0		0	↑	↓
3. CAREER STUDENTS	0	↑		↑	↑
4. DECLINE STAFF	0	↓	0		↑
5. FACULTY TRAINING	0	↑	↑	↑	

This matrix reveals several interesting relationships. First, declining population is a given—it is not influenced by any of the other events. Second, declining endowment will be accelerated by most of the other events. Decreases in staff size may not sufficiently compensate for these other influences. Third, an increase in the number of career-oriented students will probably create pressure for faculty training; however, a faculty that is increasingly skillful in working with career-oriented students will probably attract an increasing number of career-oriented students to this institution. Fourth, all of the events seem to increase the probability that staff size will decline.

A curricular planning group must first come to agreement about each matrix relationship. As in the case of the force field analysis, the cross-impact matrix provides the opportunity for a planning group to systematically test its assumptions about the dynamics of the institution. Disagreements over the matrix relationships should surface at this point, rather than, as is usually the case, when various reform strategies are being considered. While a matrix may also be appropriate when strategies are being evaluated, an initial analysis should precede this step in order to ensure that the initial identification of alternative strategies occurs under conditions of shared assumptions about the dynamics of the college.

Returning to the example, a curricular planning group might be able to draw several important conclusions from the matrix analysis. First, there may be an amplifier effect in training faculty for career-oriented students; hence, the college should be sure that it wishes to move in this direction before taking any further steps. Second, staff size at this college must be reduced. The college should therefore prepare for this inevitability and develop a curriculum that is compatible with this reduction. Third, a new curriculum should help to prevent any further decline in enrollment (and, as a result, a decline in the endowment). Reduced staff size is not sufficient to prevent reduction in endowment.

A curricular planning group can also make use of cross-impact matrices to assess the probable effect, throughout the college, of a new curricular proposal. Many curricular planning groups assume that their job is complete when they have generated a series of proposals (or a single proposal) that will seemingly solve a specific problem or assist the institution in arriving at a particular curricular goal. An important part of the planning process, however, has been ignored if it is brought to a close at this point: what if a proposal is in fact successfully implemented—what will be the probable impact of this successful proposal on other programs or the college? We must never treat a specific curricular proposal or program as if it occurs in a vacuum. It is being implemented in a complex social system—a college—hence will undoubtedly have broad and potentially unexpected consequences if successful. It will also have a significant influence on other proposals or programs if it is unsuccessful.

Following are four steps to be taken in formulating a cross-impact matrix that assesses the probable impact of programs that have already been planned or implemented. First, four to five major programs or proposals in the college, which relate in some way to the new program, should be identified. Each of these programs, along with the focal program should be described in a few words and listed on a cross-impact work sheet (see attached form).

Second, each possible pair of programs should be examined in terms of the potential impact of each one on the other—given successful or unsuccessful implementation. Program one has a *positive* impact on program two if its successful implementation will *tend to increase* the probability that program two will be successfully implemented. Program one has a *negative* impact on program two if its successful implementation will *tend to decrease* the probability that the latter will be successfully implemented. Program one has a *neutral* impact on program two if its successful implementation *tends to have no effect* on the probability that the latter will be successfully implemented. Certain aspects of program one may have a potentially positive impact on program two, while other aspects may have a potentially negative impact. Conversely, program two may have a potentially positive, negative, neutral or mixed impact on the first program.

Using the matrix on the attached cross-impact form, fill in each of the cells, placing an upturned arrow (↑) in any cell in which the program listed on the left-hand side of the matrix has a positive impact on the program indicated at the top of the matrix. In a similar manner, place a downturned arrow (↓) in any cell in which there is a negative impact, a zero (0) in any cell in which there is a neutral impact, and a two-headed arrow (↕) in any cell in which there is a mixed impact.

Third, in the case of any impact which is (a) mixed, (b) particularly complex, (c) particularly significant, or (d) controversial (no common agreement as to probable nature of impact), you may wish to do a modified force-field analysis, using the appropriate outlines on the attached cross-impact matrix form. You are to list the specific ways in which program X will probably have a positive (helping) impact on program Y, and which ways it will probably have a negative (hindering) impact. Rate the factors you have identified in terms of strength and resiliency (see matrix form).

Fourth, examine the matrix and more detailed analyses that you have completed, and discuss the implications of these findings in terms of possible modifications or expansion of the focal program and/or in terms of program implementation. The following questions might be useful to you in discussing your matrix analysis:

1. Could one or more of the programs act as a significant *catalyst* for the focal program? These are proprosals that will probably be successful at the expense of one or more other programs.
2. Could one or more programs act as significant *deterrents* to the focal program? These are programs that, if successful, seem to hold the potential of positively impacting on a number of other programs.
3. Are there a cluster of programs that seem to be highly interdependent? Can they be effectively combined?
4. What does this matrix tell you about the way in which your institution (or people in your institution) functions? Would some other program better address the problems of your institution? Are there some preliminary steps to be taken before you can implement the focal program?

A cross-input matrix is not magical, nor is it even necessarily complex. This matrix (like a force field analysis) provides a curricular planning group with a set of procedures to consider several important relationships in a structured and disciplined manner.

Cross-Impact Matrix Form

STEP ONE: LIST 4-6 PROGRAMS

1. TITLE OF FOCAL PROGRAM: ______________________

   Brief description: ______________________

2. TITLE: ______________________

   Brief description: ______________________

3. TITLE ______________________

   Brief description: ______________________

4. TITLE: ______________________

   Brief description: ______________________

5. TITLE: ______________________

   Brief description: ______________________

6. TITLE: ______________________

   Brief description: ______________________

STEP TWO: CROSS-IMPACT MATRIX

PROGRAM TITLE	1.	2.	3.	4.	5.	6.
1.	-					
2.		-				
3.			-			
4.				-		
5.					-	
6.						-

Key: ↑ = POSITIVE IMPACT
↓ = NEGATIVE IMPACT
0 = LITTLE OR NO IMPACT
↕ = MIXED IMPACT

STEP THREE: FORCE-FIELD ANALYSIS

A. THE IMPACT OF PROGRAM #__________(X)
ON PROGRAM #__________(Y)

Ways in which PROGRAM X will help PROGRAM Y be successful	Ways in which PROGRAM X will block PROGRAM Y from being successful
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

Place an asterisk (*) beside the positive and negative factors that are most significant. Place a triangle (△) beside the positive factors that are most resistant to change and beside the negative factors that are least resistant to change.

educational environment scale

4

This questionnaire assesses several different dimensions of a collegiate institution in order to help a campus community arrive at a composite perception of its educational environment. The Educational Environment Scale (EES) briefly surveys many of the dimensions that are more extensively assessed in the Institutional Functioning Inventory, Institutional Goals Inventory and College and University Environment Scales, that are distributed by the Educational Testing Service in Princeton, New Jersey, as well as the Student Learning Style Questionnaire, by Anthony Grasha and Sheryl Reichmann, that is printed in volume one of *A Handbook for Faculty Development* (Council for the Advancement of Small Colleges). The EES is useful to a college or university which would like to assess various dimensions of the educational environment in order to plan for a major curricular reform. If the EES yields data that are particularly important or intriguing in a specific dimension, then one or more of the longer, more detailed survey instruments can also be used.

The first section of the EES surveys the respondent's perception of four educational dimensions in the institution: (a) faculty orientation toward teaching and learning, (b) student orientation toward teaching and learning, (c) organizational norms of the institution, and (d) educational tools of the institution. The respondent is instructed to rank order statements as to their accuracy in describing the institution. The respondent is to indicate which one of three statements is most descriptive of the institution and which is least descriptive. These ratings are then totaled to yield three scores for each of the four dimensions. Each score indicates the relative dominance of a specific characteristic of the institution, as compared with the other two characteristics. Following is a listing of the characteristics that are associated with each of the four dimensions of the educational environment:

FACULTY ORIENTATION

CONTENT-CENTERED: Faculty are viewed as experts, formal authorities or representatives of a specific discipline; lectures and formal discussions are the usual mode of instruction.

INSTRUCTOR-CENTERED: Faculty are viewed as socializing agents or ego ideals; faculty are assumed to be effective when charismatic and attractive to students; dramatic use is made of the lecture format; discussion sessions tend to be dominated by the instructor.

STUDENT-CENTERED: Faculty are viewed as facilitators or collaborators; faculty tend to be known in a personal way by students;

SOURCE: WILLIAM H. BERGQUIST

learning contracts, student-led discussions, group discussions, role plays, simulations, field work and independent study programs are common.

STUDENT ORIENTATION

CONTENT-CENTERED: Students are viewed as being dependent on the structure and content of the course; students are oriented toward the acquisition of facts and skills, and feel most comfortable when evaluated by means of objective tests.

INSTRUCTOR-CENTERED: Students are viewed as being dependent on the instructor for both their learnings in the course and their sense of self-worth; students tend to model the instructor or at least accept the instructor's perceptions and values without critical review; subjective evaluations are preferred, especially if based on informal contact with the instructor.

STUDENT-CENTERED: Students are viewed as being independent, even defiant, with reference to their own learning; students tend to be oriented toward the exploration of personal values and resources, and feel most comfortable when there is no evaluation or when the evaluation involves the student's active participation.

ORGANIZATIONAL NORMS

AUTOCRATIC: The lines of authority are perceived as being quite clear and hierarchical in nature; both authority and responsibilities tend to be vested at the highest level of the organization; subordinates are expected to comply with orders and are rewarded for doing so.

DEMOCRATIC: The lines of authority are perceived as being clear though often complex; at various times, virtually all members of the organization can and do have a significant voice in determining the directions and policies of the organization; disagreements are worked out in a collaborative manner.

LAISSEZ-FAIRE: The lines of authority are perceived as being unclear, confusing or often contradictory; responsibility is often either not assigned or is assigned without accompanying authority; decisions tend to be made by default or through informal channels.

EDUCATIONAL GOALS

COGNITION: The institution seems committed to the student's acquisition of knowledge, concepts and principles; students are expected to gain new intellectual perspectives concerning specific problems or concerns.

AFFECT: The institution seems committed to the increase in a student's self-awareness, appreciation of artistic and natural phenomena, and clarification of values; students are expected to gain new personal insights about the ways in which specific problems or concerns are expressed and interrelated with the student's own personal life.

SKILLS: The institution seems committed to the acquisition by students of technical or professional skills that will enable them to do a *specific job in a proficient manner; students are expected to learn how to solve specific problems or address specific concerns through the use of specific procedures, tools, or resources.*

The second section of the questionnaire asks respondents to indicate the relative frequency with which they have observed certain events on campus. Thus, while the first section tends to assess impressions of the institution, the second assesses actual campus activities. Three different dimensions of campus life are considered in this section: (a) student-faculty relations, (b) educational climate, and (c) non-traditional instructional practices. Two of the five faculty-student relations items are positive in nature, while three are negative; hence one can gain a general sense of student-faculty morale from these items. The five educational climate items are all positive in nature. From these items one can gain a sense of the type and level of interest in various educational activities on campus. The ten items relating to non-traditional instructional practices provide one with information on the frequency with which various innovative practices are found on campus.

In the third and final section of the EES the respondents are instructed to indicate the extent to which this institution has been able to assist students in achieving certain outcomes: (a) factual knowledge, (b) career preparation, (c) principle acquisition, (d) problem solving, (e) creative expression, (f) cultural appreciation, (g) self-understanding, and (h) self-management. A profile of the institution can be drawn up which indicates the relative success of the institution in helping students to accomplish each of these eight desired outcomes.

The Educational Environment Scale should be distributed to a sample of at least 150 faculty, students, and administrators. Preferably, at least half of the questionnaires should be distributed to faculty and administrators. The questionnaire has been designed for use with an answer sheet that is optically-read by a computer. In scoring the EES, totals for each of the 88 items should be determined. Only in the case of Section I should the scores be combined (see the attached score sheet). An institutional outcome profile can be completed from scores on the final eight items (see the attached profile form).

The EES data can be used in a variety of ways. First, a written report can be drafted and distributed to the entire campus community or to a particular planning group. This written report should summarize the data, as well as provide several alternative interpretations of the data and/or draw out several important implications. Unfortunately, a written report does not allow for the invaluable discussion that can accompany the presentation of this type of data. One or more meetings are therefore recommended, during which the data are presented and discussed. After each piece of data is presented, those in attendance should meet in small groups to discuss these data and then report back to the total group regarding any important conclusions, themes, or insights that have emerged from the small group discussion. If the EES is given out periodically, then it will be of increasing value to a college or university, for a baseline will have been established for comparative purposes. Significant, yet subtle, changes in the student, faculty, or administrative population of the campus can often be detected in this manner. As mentioned above, the EES can be supplemented by other, more extensive scales, in those areas where additional information seems to be warranted.

EDUCATIONAL ENVIRONMENT SCALE

NAME (OPTIONAL): ______________________________

PRIMARY ROLE AT THIS INSTITUTION:

_______ STUDENT

_______ FACULTY

_______ ADMINISTRATOR

_______ STAFF

_______ TRUSTEE

_______ OTHER (PLEASE SPECIFY) ______________________

____

____

____

NUMBER OF YEARS AT THIS INSTITUTION:

_______ 0 TO 1 YEAR

_______ 1 TO 2 YEARS

_______ 2 TO 3 YEARS

_______ 3 TO 4 YEARS

_______ 4 TO 8 YEARS

_______ 8 TO 15 YEARS

_______ MORE THAN 15 YEARS

YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE
WILL BE GREATLY APPRECIATED

SECTION ONE
GENERAL CHARACTERISTICS OF THE INSTITUTION

INSTRUCTIONS: Listed on the following pages are several sets of statements that to varying degrees accurately describe your institution. Please rank each of the three statements in each set with reference to the relative accuracy of the statement from your own perspective at the institution. That statement of the three which most accurately describes your institution should be rated "A"; that which is second most accurate should be rated "B"; that which is least accurate of the three should be rated "C". Record your rankings in the appropriate categories on the attached answer sheet.

EXAMPLE

STUDENTS

95. The students who attend this institution are primarily in the 18-22 year age range.

96. The students who attend this institution are primarily in the 23-65 year age range.

97. The students who attend this institution are primarily over 65 years of age.

If statement #95 is most accurate, then blacken in the box labeled "A" to the right of number 95 on the answer sheet. If one of the other statements (96 or 97) are more accurate than 95, then blacken in the box labeled "B" to the right of number 95 on the answer sheet. If both of the other statements are more accurate, then blacken in the "C" box to the right of number 95 on the answer sheet. Follow an identical procedure with reference to statements 96 and 97.

To further illustrate this procedure, let's assume that the largest proportion of students at this institution are 18-22 years old (statement 95), the next largest proportion are 23-65 years old (statement 96), and the smallest proportion are over 65 (statement 97). The three statements would be scored as follows:

	A	B	C	D	E
95.	■	☐	☐	☐	☐
96.	☐	■	☐	☐	☐
97.	☐	☐	■	☐	☐

Please give a *different* ranking (A, B or C) for each of the three statements in a set. Do not skip any items, and be sure that you have completely blackened in the appropriate box for each statement.

FACULTY

1. Faculty at this institution generally believe that students should learn how to study in an independent manner.

2. Faculty at this institution generally believe that most of what students learn, they learn from their teachers.

3. Faculty at this institution generally believe that students can learn more by sharing their ideas than by keeping their ideas to themselves.

STUDENTS

4. Students at this institution tend to study what is important to them and not necessarily what the instructor says is important.

5. Students at this institution tend to work on only those class assignments that are required by the instructor.

6. Students at this institution tend to work with other students on classroom assignments.

ORGANIZATION

7. At this institution, policy matters often provoke widespread discussion that is intense, lively and influential.

8. At this institution, policy matters tend to be primarily discussed by administrators and key faculty.

9. At this institution, policy matters are often discussed informally, with little effect, for long periods of time.

GOALS

10. This institution encourages students to acquire depth of knowledge in at least one academic discipline.

11. This institution encourages students to achieve deep levels of personal understanding.

12. This institution encourages students to prepare for specific professional/occupational careers.

FACULTY

13. Faculty at this institution usually are very personal with students.

14. Faculty at this institution usually give students considerable freedom of choice.

15. Faculty at this institution usually are primarily concerned with the student's command of prescribed course content.

STUDENTS

16. Students at this institution tend to enjoy class sessions that are highly organized.

17. Students at this institution tend to enjoy class sessions that are very stimulating and unique.

18. Students at this institution tend to enjoy class sessions that are conducted by themselves or other students.

ORGANIZATION

19. Members of this institution generally make every effort to please the key administrators and academic leaders.

20. Members of this institution generally express their feelings freely and openly to key administrators and academic leaders.

21. Members of this institution generally have little personal contact with key administrators and academic leaders.

GOALS

22. The institution provides educational programs that are primarily geared to professions/careers that are new or emerging.

23. This institution provides educational programs that examine prevailing practices and values in American society.

24. This institution provides educational programs that synthesize knowledge from a variety of sources.

FACULTY

25. Faculty at this institution tend to be very exciting lecturers and discussion leaders.

26. Faculty at this institution tend to be very clear about their expectations concerning student performance in the course.

27. Faculty at this institution tend to be very effective in their support of independent studies and individualized student projects.

STUDENTS

28. Students at this institution generally do not like instructors who deviate from lecture notes.

29. Students at this institution generally do not like instructors who force them to work alone.

30. Students at this institution generally do not like instructors who ignore suggestions about how the course might be changed.

ORGANIZATION

31. At this institution, most new projects are planned by groups rather than individuals.

32. At this institution, most new projects are planned by individuals rather than groups.

33. At this institution, most new projects are planned by key administrators and/or academic leaders.

GOALS

34. Members of this institution generally are committed to the acquisition of basic knowledge in the humanities, social sciences and natural sciences.

35. Members of this institution generally are committed to the acquisition of basic competencies in reading, writing and computation.

36. Members of this institution generally are committed to the acquisition of a sense of self and personal growth.

FACULTY

37. Faculty at this institution often give too many trivial assignments.

38. Faculty at this institution often provide too little guidance and support to students.

39. Faculty at this institution often fail to acknowledge their own biases and selective perceptions when delivering a lecture or leading a discussion.

STUDENTS

40. Students at this institution tend to take notes on everything that the instructor says.

41. Students at this institution tend to work closely with their instructor both inside and outside the classroom.

42. Students at this institution tend to work independently of their instructors on many of their projects.

ORGANIZATION

43. Members of this institution seem to be primarily interested in being left alone.

44. Members of this institution seem to be primarily interested in complying with institutional regulations and traditions.

45. Members of this institution seem to be primarily interested in struggling for power or influence.

GOALS

46. Members of this institution generally would like it to be a center for the development of human resources that are responsive to community needs.

47. Members of this institution generally would like it to be a center for disciplined, intellectual inquiry.

48. Members of this institution generally would like it to be a center for the clarification and maturation of personal values.

FACULTY

49. Faculty at this institution generally encourage students to earn high grades.

50. Faculty at this institution generally encourage students to define their own personal objectives and resources.

51. Faculty at this institution generally encourage students to become excited about a particular subject area or discipline.

STUDENTS

52. Students at this institution generally believe that their opinions are often as valid as those of the instructor or textbook.

53. Students at this institution generally believe that much of what they learn is derived from instructors and textbooks.

54. Students at this institution generally believe that they can learn much from sharing ideas with their classmates and the instructor.

ORGANIZATION

55. The climate of this institution seems to encourage diversity.

56. The climate of this institution seems to encourage participation.

57. The climate of this institution seems to encourage compliance.

GOALS

58. The programs of this institution generally *enable* students to change conditions in their home and community.

59. The programs of this institution generally *encourage* students to change conditions in their home and community.

60. The programs of this institution generally enable students to *understand* the nature of conditions in their home and community.

SECTION TWO
ACTIVITIES OF THE INSTITUTION

INSTRUCTIONS:Listed below and on the following pages are a series of activities or events which are observed at some colleges and universities. We would like you to indicate the frequency with which you have *observed* or definitely *heard about* the occurrence of each activity or event. Please use the following scale to rate each activity:

A=Have *not observed* or heard about this activity or event occurring on the campus during the past year.

B=Have *rarely observed* or heard about this activity or event during the past year (less than five times).

C=Have *occasionally observed* or heard about this activity or event during the past year (5-10 times).

D=Have *frequently observed* or heard about this activity or event during the past year (10-20 times).

E=Have *regularly observed* or heard about this activity or event during the past year (more than 20 times).

Please record your response on the answer sheet by blackening in the appropriate box to the right of the statement number.

STUDENT-FACULTY RELATIONS

61. Students openly complain about the quality of teaching at this institution.

62. Faculty express open enthusiasm about the quality of student work at this institution.

63. Students openly complain about the inaccessibility or impersonality of faculty members.

64. Students speak of faculty members in a personal and affectionate manner.

65. Faculty make sarcastic or openly negative comments about the abilities and/or motivations of their students.

EDUCATIONAL CLIMATE

66. Widespread campus interest and involvement in an on-campus cultural event: concert, museum exhibit, art show, lecture, etc.

67. Widespread campus interest in and support for student intellectual productions: literary magazines, dramatic productions, political/social analyses or satires, debates, student lecture series, etc.

68. A lively classroom discussion that is supported and sustained primarily by students rather than the instructor.

69. The presence of esteemed and/or controversial intellectual leaders or spokespersons on your campus.

70. An extended informal discussion on a complex, conceptual issue by a group of students outside the classroom, without faculty initiative.

NONTRADITIONAL INSTRUCTIONAL PRACTICES

71. A faculty member used an instructional simulation/game or role play in the classroom.

72. A faculty member used a computer, complex audio-visual technique or other sophisticated educational technology for instructional purposes.

73. A faculty member used some type of self-paced, competency-based instructional procedure in the classroom (the students moved at their own rate, achieving a certain level of competency in one area before proceeding to a new area).

74. A faculty member made use of some method of peer (student-to-student) instruction (breaking the class down into small groups, student project groups, advanced students assisting slower students, etc.)

75. Two or more faculty members worked in a collaborative manner to teach a single course (within the same discipline or interdisciplinary).

76. Students took a field trip or engaged in field-oriented projects as part of a regular classroom-based course.

77. As part of the reading assignments for a course, the instructor selected one or more books or readings that were clearly outside the discipline being taught (e.g., a literary work assigned in a social science course).

78. A faculty member asked students to grade themselves or be graded by their peers (other students in the course).

79. A faculty member graded his/her students on the basis of a "learning contract" or portfolio of documented course accomplishments.

80. Students were allowed by an instructor to design, implement and evaluate their own course.

SECTION THREE
OVERALL IMPACT OF THE INSTITUTION ON STUDENTS

INSTRUCTIONS: Please respond to each of the statements listed below in terms of the extent to which you think it describes a significant area of impact of the institution on the student. Using the following rating scale, indicate the percentage of students that you think have achieved the outcome described in each statement:

A = less than ten percent *(0-10%)* of the students have achieved this outcome by the time they graduate from this institution.

B = ten to forty percent *(10-40%)* of the students have achieved this outcome by the time they graduate.

C = forty to sixty percent *(40-60%)* of the students have achieved this outcome by the time they graduate.

D = sixty to ninety percent *(60-90%)* of the students have achieved this outcome by the time they graduate.

E = over ninety percent (*90-100%*) of the students have achieved this outcome by the time they graduate.

Record your responses on the answer sheet by blackening in the appropriate box to the right of the statement number.

81. *Factual knowledge:* the student will have significantly increased his/her knowledge of terms, methods and information in one or more academic discipline.

82. *Career Preparation:* the student will have learned how to perform specific tasks related to a career and/or how to fill a particular professional/vocational role.

83. *Principle Acquisition:* the student will have become familiar with several theoretical and conceptual perspectives that are central and/or critical to our civilization and will have learned how to more effectively generalize from and organize specific learning experiences.

84. *Problem Solving:* the student will have learned how to use new information, concepts and methods to solve pressing problems of the community or society.

85. *Creative Expression:* the student will have learned how to be more expressive in the use of a specific medium (words, paint, music, etc.) or how to approach and solve problems in a new way.

86. *Cultural Appreciation:* the student will have acquired a greater sensitivity to specific intellectual, scientific or artistic endeavors.

87. *Self-Understanding:* the student will have acquired a better sense of self and/or relationships with other people.

88. *Self-Management:* the student wil have learned how to plan more effectively for and/or control his/her own personal and professional lif[illegible]

INSTRUCTIONS FOR SCORING THE EDUCATIONAL ENVIRONMENT SCALE

SECTION ONE: GENERAL CHARACTERISTICS OF THE INSTITUTION
If the scales are hand-scored for each of the items in this section (Numbers 1-60), first convert all "A" responses to a score of "1", "B" responses to a score of "2" and "C" responses to a score of "3". If the instruments are machine-scored, code the responses so that "As" are recorded as "1s" and so forth. For each of the questionnaires that are being scored, a total score should be derived for each of the three categories in each of the four dimensions. The total scores are determined by adding together the respondent's score on the five items listed under each of the following categories:

	FACULTY ORIENTATION	
CONTENT-CENTERED	INSTRUCTOR-CENTERED	STUDENT-CENTERED
2.	3.	1.
15.	13.	14.
26.	25.	27.
37.	39.	38.
49.	51.	50.

	STUDENT ORIENTATION	
CONTENT-CENTERED	INSTRUCTOR-CENTERED	STUDENT-CENTERED
5.	6.	4.
16.	17.	18.
28.	29.	30.
40.	41.	42.
53.	54.	52.

ORGANIZATIONAL NORMS

AUTOCRATIC	DEMOCRATIC	LAISSEZ-FAIRE
8.	7.	9.
19.	20.	21.
33.	31.	32.
44.	45.	43.
57.	56.	55.

EDUCATIONAL GOALS

COGNITION	AFFECT	SKILLS
10.	11.	12.
24.	23.	22.
34.	36.	35.
47.	48.	46.
60.	59.	58.

After total scores for each category under each of the four dimensions has been calculated for each respondent, the grand totals for all respondents should be calculated. The *lower* the total score, the more accurately does this category describe the institution. The *higher* the score, the less accurately does this category describe the institution.

SECTION TWO: ACTIVITIES OF THE INSTITUTION

For each of the twenty items in this section, the frequency with which each of the five response categories (not observed, rarely observed, occasionally observed, frequently observed, and regularly observed) is selected should be determined. No meaningful totals can be calculated across items. The score for each item should be reported in terms of the distribution of responses to each category.

SECTION THREE: OVERALL IMPACT OF THE INSTITUTION ON STUDENTS

As in the case of Section Two, the frequencies of responses to each item, in terms of five response categories (less than 10%, 10-40%, 40-60%, 60-90%, over 90%) should be calculated. The scale which is being used does not permit a determination of average scores; however, a mode category with the greatest number of responses for each of the eight outcomes can be determined and graphically portrayed on the accompanying Educational Outcome Profile. If, for example, Item 81 (Factual knowledge) is rated by 20 respondents as achieved by less than 10% of the students, by 35 respondents as achieved by 10-40% of the students, by 45 respondents as achieved by 40-60% of the students, by 30 respondents as achieved by 60-90% of the students, and by 10 respondents as achieved by over 90% of the students, then the modal response is 40-60%. The modal response is, in turn, recorded on the profile along with modal responses on the other seven goal items (Items 82-88). In the case of Item 81 (Factual knowledge), the two cells to the left of the 40-60% line would be shaded in for outcome one (Factual knowledge).

EDUCATIONAL GOALS PROFILE

PERCENTAGE OF STUDENTS ACHIEVING EACH OUTCOME (MODAL RESPONSE)

OUTCOME	0-10%	10-40%	40-60%	60-90%	90-100%
1. FACTUAL KNOWLEDGE					
2. CAREER PREPARATION					
3. PRINCIPLE ACQUISITION					
4. PROBLEM SOLVING					
5. CREATIVE EXPRESSION					
6. CULTURAL APPRECIATION					
7. SELF-UNDERSTANDING					
8. SELF-MANAGEMENT					